EL834341252US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

O'Brien, Timothy J. et al.

Serial No.

Unassigned

Filing Date

September 27, 2001

For

REPEAT SEQUENCES OF THE CA125 GENE AND THEIR USE FOR DIAGNOSTIC AND THERAPEUTIC INTERVENTIONS

Examiner

Unassigned

Group Art Unit

Unassigned

TRANSMITTAL OF VERIFIED STATEMENT FOR THE NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES AS REQUIRED BY 37 C.F.R. § 1.821(e)

Assistant Commissioner for Patents Washington, DC 20231

Sir:

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T. T. T.

Transmitted herewith is an original Sequence Listing which comprises nucleotide and amino acid sequences contained in the application as filed. Applicants include a paper copy of the Sequence Listing as well as a diskette which contains the computer readable form of the Sequence Listing. Pursuant to 37 C.F.R. § 1.821(e), the paper copy and computer readable form, are the same.

Respectfully submitted,

Date: September 27, 2001

Pat Winston Kennedy

Reg. No. 36,970

Kilpatrick Stockton LLP 1001 West Fourth Street Winston-Salem, NC 27101 Phone: (336) 607-7336 Facsimile: (336) 607-7500

Attorney Docket No.: 40715-260477

40715-260477 WINLIB01:909736.1 33

SEQUENCE LISTING

<110> O'Brien, Timothy

 $\!<\!120\!>$ Repeat Sequences of the CA125 Gene and Their Use for Diagnostic and Therapeutic Interventions

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<150> US 60/284,175

<151> 2001-04-17

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Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ala Leu Asp 65 70 75 80

Asn Asp Ser Leu Phe Val Asn Gly Phe Thr His Arg Ser Ser Val Ser 85 90 95

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Lys Asp Gly Ala Ala Thr Arg Ala Asp Ala Val Cys Thr His Arg Pro

45 40 35 Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr 85 Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg 105 Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 130 <210> 13 <211> 132 <212> PRT <213> Homo sapiens <400> 13 Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Ile His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly 105 Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu 120 115 Leu Ile Pro Phe 130

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Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala 85

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Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu 50 55 60

Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu 85 90 95

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100 105

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Phe Leu Ile 115 120 125

Pro Phe 130

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Ala Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu 35 40

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro 85

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Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro 85 90 95

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Thr Pro Ala Ser Leu Pro Gly His Ile Val Pro Gly Pro Leu Leu Ile 115 120 125

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Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val 35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Asn Pro Trp Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly 100 105 110

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Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro 85 90 95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu 100 105 110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val 115 120 125

Pro Phe Thr 130 <210> 20

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Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly 100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe 130

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Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His His Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly 100 105 110

Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr 130

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Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro 35 40 45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly 100 105 110

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu

145 150 155 160 Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 185 Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 215 His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 235 Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr 250 Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 265 Phe Pro Gly His Thr Glu Pro Gly Pro Leu <210> 23 <211> 286 <212> PRT <213> Homo sapiens <400> 23 Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100 105

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Arg Val Asp Ala Val Cys Thr Gln Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr 210 215 220

His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu 225 230 235 240

Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr 245 250 255

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Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 65 70 75 80 Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Phe Ser Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val

Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp 130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Thr Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 195 200 205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Trp Ile Pro 245 250

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Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu
35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp

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Tyr	Ser	Gly	Cys 180	Arg	Leu	Ile	Ser	Leu 185	Arg	Ser	Glu	Lys	Asp 190	Gly	Ala
Ala	Thr	Gly 195	Val	Asp	Ala	Ile	Cys 200	Thr	His	His	Leu	Asn 205	Pro	Gln	Ser
Pro	Gly 210	Leu	Asp	Arg	Glu	Gln 215	Leu	Tyr	Trp	Gln	Leu 220	Ser	Gln	Met	Thr
Asn 225	Gly	Ile	Lys	Glu	Leu 230	Gly	Pro	Tyr	Thr	Leu 235	Asp	Arg	Asn	Ser	Leu 240
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Pro	Trp	Thr	Ser 260	Thr	Val	Asp	Leu	Gly 265	Thr	Ser	Gly	Thr	Pro 270	Ser	Pro
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Val	Gly	Pro	Leu 20	Tyr	Ser	Gly	Cys	Arg 25	Leu	Thr	Leu	Leu	Arg 30	Pro	Glu

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Ser Arg Gln Ser Ser Met Thr 85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg 100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr 245 250 255

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Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 60

Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 100 105 110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser 260 265 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe 275 280 285

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Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val 35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly
100 105 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn 130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 195 200 205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu 260 265 270

Pro Ser Pro Thr Thr Ala Gly Pro Leu 275 280

<210> 30

<211> 217

<212> PRT

<213> Homo sapiens

<400> 30

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser 1 10 15

Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His His Pro

Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly
100 105 110

Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg

195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr 210 215

<210> 31

<211> 286

<212> PRT

<213> Homo sapiens

<400> 31

Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser 1 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys 20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro 35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220 His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr 245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser 260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 275 280 285

<210> 32

<211> 288

<212> PRT

<213> Homo sapiens

<400> 32

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser 1 5 10 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys 20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro 35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 190 Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 275 280 285

<210> 33

<211> 284

<212> PRT

<213> Homo sapiens

<400> 33

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro 35 40 45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu 50 55 60

Ser Gln Leu Thr His Asp Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly 100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn 130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu





25

155 145 150 160 Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Glu Ala 185 Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr 215 Asn Ser Ile His Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu 225 230 235 Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr 250 Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 280 <210> 34 <211> 288 <212> PRT <213> Homo sapiens <400> 34 Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly 100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 275 280 285

<210> 35

<211> 274

<212> PRT

<213> Homo sapiens

<400> 35

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser 1 5 10 15

Val Gly Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro 35 40 45

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu 50 55 60

Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr 85 90 95

Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg 100 105 110

Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val

Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn 130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile 245 250 255

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser 260 265 270

Leu Pro

<210> 36

<211> 386

<212> PRT

<213> Homo sapiens

<400> 36

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu

35 40 45 Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 75 Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu 105 Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Ala 135 Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 155 145 150 Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu 165 170 Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 215 His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Val Ser Leu 235 Tyr Val Asn Gly Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr 250 Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser 260 265 Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu 280 285 Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro 290 Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu 310 315 Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys 325 Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val 345

Asp Ala Ile Cys Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn 355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr 370 375 380

Glu Leu 385

<210> 37

<211> 438

<212> PRT

<213> Homo sapiens

<400> 37

Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg
1 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val 35 40 45

Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly 100 105 110

Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn 130 135 140

Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Lys Pro Glu Lys His Glu Ala 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly
195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile 245 250 255

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser 260 265 270

Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu 275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu 305 310 315 320

Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val 340 345 350

Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp 355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile 370 380

Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly 385 390 395

Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser 405 410 415

Thr Val His Leu Gly Thr Ser Glu Ile His Pro Ser Leu Pro Arg Pro 420 425 430

Ile Val Pro Gly Pro Leu 435

<210> 38

<211> 420

<212> PRT

<213> Homo sapiens

<400> 38

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys

1				5					10					15	
Asp	Gly	Ala	Ala 20	Thr	Gly	Met	Asp	Ala 25	Val	Cys	Leu	Tyr	His 30	Pro	Asn
Pro	Lys	Arg 35	Pro	Gly	Leu	Asp	Arg 40	Glu	Gln	Leu	Tyr	Trp 45	Glu	Leu	Ser
Gln	Leu 50	Thr	His	Asn	Ile	Thr 55	Glu	Leu	Gly	Pro	Tyr 60	Ser	Leu	Asp	Arg
Asp 65	Ser	Leu	Tyr	Val	Asn 70	Gly	Phe	Thr	His	Gln 75	Asn	Ser	Val	Pro	Thr 80
Thr	Ser	Thr	Pro	Gly 85	Thr	Ser	Thr	Val	Tyr 90	Trp	Ala	Thr	Thr	Gly 95	Thr
Pro	Ser	Ser	Phe 100	Pro	Gly	His	Thr	Glu 105	Pro	Gly	Pro	Leu	Leu 110	Ile	Pro
Phe	Thr	Leu 115	Asn	Phe	Thr	Ile	Thr 120	Asn	Leu	Gln	Tyr	Glu 125	Glu	Asn	Met
Gly	His 130	Pro	Gly	Ser	Arg	Lys 135	Phe	Asn	Ile	Thr	Glu 140	Ser	Val	Leu	Gln
Gly 145	Leu	Leu	Thr	Pro	Leu 150	Phe	Lys	Asn	Ser	Ser 155	Val	Gly	Pro	Leu	Tyr 160
Ser	Gly	Cys	Arg	Leu 165	Ile	Ser	Leu	Arg	Ser 170	Glu	Lys	Asp	Gly	Ala 175	Ala
Thr	Gly	Val	Asp 180	Ala	Ile	Cys	Thr	His 185	His	Leu	Asn	Pro	Gln 190	Ser	Pro
Gly	Leu	Asp 195	Arg	Glu	Gln	Leu	Tyr 200	Trp	Gln	Leu	Ser	Gln 205	Met	Thr	Asn
Gly	Ile 210	Lys	Glu	Leu	Gly	Pro 215	Tyr	Thr	Leu	Asp	Arg 220	Asp	Ser	Leu	Tyr
Val 225	Asn	Gly	Phe	Thr	His 230	Arg	Ser	Leu	Gly	Leu 235	Thr	Thr	Ser	Thr	Pro 240
Trp	Thr	Ser	Thr	Val 245	Asp	Leu	Gly	Thr	Ser 250	Gly	Thr	Pro	Ser	Pro 255	Val
Pro	Ser	Pro	Thr 260	Thr	Ala	Gly	Pro	Leu 265	Leu	Ile	Pro	Phe	Thr 270	Leu	Asn
Phe	Thr	Ile 275	Thr	Asn	Leu	Gln	Tyr 280	Glu	Glu	Asn	Met	Gly 285	His	Pro	Gly
Ser	Arg 290	Lys	Phe	Asn	Ile	Met 295	Glu	Arg	Val	Leu	Gln 300	Gly	Leu	Leu	Arg
Pro	Val	Phe	Lys	Asn	Thr	Ser	Val	Gly	Pro	Leu 315	Tyr	Ser	Gly	Cys	Arg

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp 325 330 335

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg 340 345 350

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu 355 360 365

Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe 370 375 380

Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Pro Thr 385 390 395 400

Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser Lys Pro Gly Pro Ser 405 410 415

Ala Ala Ser Pro 420

<210> 39

<211> 439

<212> PRT

<213> Homo sapiens

<400> 39

Glu Arg Val Leu Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly 100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

435

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu 155 145 150 Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala 185 Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr 215 His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 230 235 225 Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr 250 245 Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 260 265 Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 295 Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu 315 310 Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp 360 Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr 370 375 Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 395 390 Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser 405 Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His 425 Thr Ala Pro Gly Pro Leu Leu

<210> 40

<211> 424

<212> PRT

<213> Homo sapiens

<400> 40

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Tyr Thr His 20 25 30

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp 35 40 45

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 50 55 60

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser 65 70 75 80

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr 85 90 95

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu 100 105 110

Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu 115 120 125

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg 130 135 140

Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly 145 150 155 160

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp 165 170 175

Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro 180 185 190

Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln
195 200 205

Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp 210 215 220

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr 225 230 235 240

Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro 245 250 255 Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe 260 265 270

Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His $275 \hspace{1cm} 280 \hspace{1cm} 285 \hspace{1cm}$

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly 290 295 300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser 305 310 315

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr 325 330 335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly 340 345 350

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser 355 360 365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val 370 375 380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly 385 390 395 400

Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro $405 \hspace{1.5cm} 410 \hspace{1.5cm} 415$

Gly His Thr Ala Pro Val Pro Leu 420

<210> 41

<211> 418

<212> PRT

<213> Homo sapiens

<400> 41

Thr Leu Leu Arg Pro Lys Lys Asp Gly Val Ala Thr Gly Val Asp Ala
1 5 10 15

Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu 20 25 30

Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu 35 40 45

Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr 50 55 60

His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val

65					70					75					80
Asp	Leu	Arç	g Thr	Ser 85	Gly	Thi	r Pro	Ser	Ser 90	r Le	u Se:	r Sei	r Pro	95	r Ile
Met	. Ala	Ala	Gly 100) Leu	Lei	ı Ile	Pro 105		e Thi	c Ile	e Asr	n Ph∈ 110		c Ile
Thr	Asn	Leu 115	Arg	Туг	Glu	Glu	Asn 120		His	s His	s Pro	Gl ₃ 125		Arg	g Lys
Phe	Asn 130		Met	Glu	Arg	Val 135		Gln	Gly	/ Lei	1 Leu 140		Pro	Leu	ı Phe
Lys 145	Asn	Thr	Ser	Val	Ser 150		Leu	Tyr	Ser	Gly 155		arç	J Leu	Thr	Let 160
Leu	Arg	Pro	Glu	Lys 165	Asp	Gly	Ala	Ala	Thr 170		y Val	. Asp	Ala	Val 175	_
Thr	His	Arg	Pro 180		Pro	Lys	Ser	Pro 185		Leu	Asp	Arg	Glu 190	_	Leu
Tyr	Trp	Lys 195	Leu	Ser	Gln	Leu	Thr 200	His	Gly	Ile	Thr	Glu 205		Gly	Pro
Tyr	Thr 210	Leu	Asp	Arg	Asn	Ser 215	Leu	Tyr	Val	Asn	Gly 220		Thr	His	Arg
Ser 225	Ser	Met	Pro	Thr	Thr 230	Ser	Thr	Pro	Gly	Thr 235	Ser	Thr	Val	Asp	Val 240
Gly	Thr	Ser	Gly	Thr 245	Pro	Ser	Ser	Ser	Pro 250		Pro	Thr	Thr	Ala 255	Gly
Pro	Leu	Leu	Met 260	Pro	Phe	Thr	Leu	Asn 265	Phe	Thr	Ile	Thr	Asn 270	Leu	Gln
Tyr	Glu	Glu 275	Asp	Met	Arg	Arg	Thr 280	Gly	Ser	Arg	Lys	Phe 285	Asn	Thr	Met
Glu	Arg 290	Val	Leu	Gln	Gly	Leu 295	Leu	Lys	Pro	Leu	Phe 300	Lys	Ser	Thr	Ser
Val 305	Gly	Pro	Leu	Tyr	Ser 310	Gly	Cys	Arg	Leu	Thr 315	Leu	Leu	Arg	Pro	Glu 320
Lys	His	Gly	Ala	Ala 325	Thr	Gly	Val	Asp	Ala 330	Ile	Cys	Thr	Leu	Arg 335	Leu
Asp	Pro	Thr	Gly 340	Pro	Gly	Leu	Asp	Arg 345	Glu	Arg	Leu	Tyr	Trp 350	Glu	Leu
Ser	Gln	Leu 355	Thr	Asn	Ser	Val	Thr 360	Glu	Leu	Gly	Pro	Tyr 365	Thr	Leu	Asp
Arg	Asp 370	Ser	Leu	Tyr	Val	Asn	Gly	Phe	Thr	His	Arg	Ser	Ser	Val	Pro

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 385 390 395 400

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile 405 410 415

Pro Phe

<210> 42

<211> 443

<212> PRT

<213> Homo sapiens

<400> 42

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro 35 40 45

Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu 100 105 110

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Ser Glu 195 200 205 Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 220

Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Ser Gly Val Leu Cys Pro Pro Ser 245 250 255

Ile Leu Gly Ile Phe Thr Val Gln Pro Glu Thr Phe Glu Thr Pro Ser 260 265 270

Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr 275 280 285

Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg 290 295 300

Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 305 310 315

Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly 325 330 335

Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly 340 345 350

Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu 355 360 365

Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile 370 380

Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn 385 390 395

Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr 405 410 415

Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly
420 425 430

His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe 435 440

<210> 43

<211> 442

<212> PRT

<213> Homo sapiens

<400> 43

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser

	1				5					10					15	
	Leu	Glu	Tyr	Leu 20	Tyr	Ser	Gly	Cys	Arg 25	Leu	Ala	Ser	Leu	Arg 30	Pro	Glu
	Lys	Asp	Ser 35	Ser	Ala	Met	Ala	Val 40	Asp	Ala	Ile	Cys	Thr 45	His	Arg	Pro
	Asp	Pro 50	Glu	Asp	Leu	Gly	Leu 55	Asp	Arg	Glu	Arg	Leu 60	Tyr	Trp	Glu	Leu
	Ser 65	Asn	Leu	Thr	Asn	Gly 70	Ile	Gln	Glu	Leu	Gly 75	Pro	Tyr	Thr	Leu	Asp 80
	Arg	Asn	Ser	Leu	Tyr 85	Val	Asn	Gly	Phe	Thr 90	His	Arg	Ser	Ser	Met 95	Pro
	Thr	Thr	Ser	Thr 100	Pro	Gly	Thr	Ser	Thr 105	Val	Asp	Val	Gly	Thr 110	Ser	Gly
	Thr	Pro	Ser 115	Ser	Ser	Pro	Ser	Pro 120	Thr	Thr	Ala	Gly	Pro 125	Leu	Leu	Met
	Pro	Phe 130	Thr	Leu	Asn	Phe	Thr 135	Ile	Thr	Asn	Leu	Gln 140	Tyr	Glu	Glu	Asp
	Met 145	Arg	Arg	Thr	Gly	Ser 150	Arg	Lys	Phe	Asn	Thr 155	Met	Glu	Ser	Val	Leu 160
	Gln	Gly	Leu	Leu	Lys 165	Pro	Leu	Phe	Lys	Asn 170	Thr	Ser	Val	Gly	Pro 175	Leu
	Tyr	Ser	Gly	Cys 180	Arg	Leu	Thr	Leu	Leu 185	Arg	Pro	Lys	Lys	Asp 190	Gly	Ala
	Ala	Thr	Gly 195	Val	Asp	Ala	Ile	Cys 200	Thr	His	Arg	Leu	Asp 205	Pro	Lys	Ser
	Pro	Gly 210	Leu	Asn	Arg	Glu	Gln 215	Leu	Tyr	Trp	Glu	Leu 220	Ser	Lys	Leu	Thr
	Asn 225	Asp	Ile	Glu	Glu	Val 230	Gly	Pro	Tyr	Thr	Leu 235	Asp	Arg	Asn	Ser	Leu 240
	Tyr	Val	Asn	Gly	Phe 245	Thr	His	Arg	Ser	Phe 250	Val	Ala	Pro	Thr	Ser 255	Thr
	Leu	Gly	Thr	Ser 260	Thr	Val	Asp	Leu	Gly 265	Thr	Ser	Gly	Thr	Pro 270	Ser	Ser
	Leu	Pro	Ser 275	Pro	Thr	Thr	Gly	Val 280	Pro	Leu	Leu	Ile	Pro 285	Phe	Thr	Leu
1	Asn	Phe 290	Thr	Ile	Thr	Asn	Leu 295	Gln	Tyr	Glu	Glu	Asn 300	Met	Gly	His	Pro
	Gly 305	Ser	Arg	Lys	Phe	Asn 310	Ile	Met	Glu	Arg	Val 315	Leu	Gln	Gly	Leu	Leu 320

Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys 325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val 340 345 350

Val Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp 355 360 365

Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr 370 380

Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly 385 390 395 400

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser 405 410 415

Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro 420 425 430

Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 435 440

<210> 44

<211> 442

<212> PRT

<213> Homo sapiens

<400> 44

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 70 75 80

Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro 85 90 95

Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu 100 105 110

Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu Gln Gly Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu 170 Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Ser Ser Thr Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp 200 Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr 215 Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Phe Met Pro Thr Thr Ser Thr Leu Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu 280 Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 295 Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu 315 310 Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 325 Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val 345 Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu 375 Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Pro Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro 420 425

Thr Ile Met Ala Ala Gly Pro Leu Leu Ile

435 440

<210> 45

<211> 379

<212> PRT

<213> Homo sapiens

<400> 45

Glu Arg Val Leu Gl
n Gly Leu Leu Gly Pro Met Phe Lys As
n Thr Ser 1 $$ 5 $$ 10 $$ 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu $35 \hspace{1.5cm} 40 \hspace{1.5cm} 45$

Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala 85 90 95

Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly
100 105 110

Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp 130 135 140

Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Arg Ser Glu Lys Asp Gly Ala 180 185 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 195 200 205

Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu 275 280 285

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 290 295 300

Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu 305 310 315 320

Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys 325 330 335

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val 340 345 350

Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn 355 360 365

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu 370 375

<210> 46

<211> 439

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(439)

<223> Any "X" = any amino acid

<400> 46

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu 35 40 45

Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu

50 55 60 Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro 90 Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 100 105 Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile 120 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn 130 135 Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu 155 Gln Gly Cys Leu Val Pro Cys Ser Arg Asn Thr Asn Val Gly Leu Leu 170 Tyr Ser Gly Cys Arg Leu Thr Leu Leu Xaa Xaa Xaa Xaa Xaa Xaa 185 195 200 Xaa Xaa Xaa Xaa Xaa Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 235 Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser 265 Leu Pro Ser Pro Thr Thr Val Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly 295 Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly 305 310 Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg 330 Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg 355 360

Glu Gln Leu Tyr Trp Gln Leu Ser Gln Val Thr Asn Gly Ile Lys Glu 370 375 380

Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe 385 390 395 400

Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr 405 410 415

Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro Thr 420 425 430

Thr Ala Gly Pro Leu Leu Ile 435

<210> 47

<211> 1366

<212> PRT

<213> Homo sapiens

<400> 47

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser 1 5 10 15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu 20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro 35 40 45

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro $85 \hspace{1cm} 90 \hspace{1cm} 95$

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly 100 105 110

Thr Pro Ser Ser Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu 145 150 155 160

Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 230 Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr 250 Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 265 Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro 295 Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu Gln Gly Leu Leu 315 Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met 340 345 Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp 360 Arg Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr 375 Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 395 Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser 410 405 Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His 425 Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile 435 Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys 455 Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe 475 470

Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu

485 490 495 Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys 505 Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu 520 Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro 535 Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu 565 Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly 580 585 Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln 600 605 Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr 615 Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 630 635 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 695 Arg Gly Ser Leu Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro 710 715 Ile Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu 730 Thr Pro Ser Ser Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile 740 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Arg Val Leu 775 Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu 785 790 795

1100

Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu Lys Asp Ser Ser 810 805 Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp 825 Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 855 Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr 865 Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser 890 Ser Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu 905 900 Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr 920 Gly Ser Arg Lys Phe Asn Thr Met Glu Ser Val Leu Gln Gly Leu Leu 935 Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu 1000 Glu Val Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn 1020 1010 1015 Gly Phe Thr His Arg Ser Phe Val Ala Pro Thr Ser Thr Leu Gly 1030 1035 Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu 1040 1045 Pro Ser Pro Thr Thr Gly Val Pro Leu Leu Ile Pro Phe Thr Leu 1055 1060 Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His 1070 Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu Gln Gly 1085 1090 Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Ser Leu Tyr

1105

1110

<212> PRT

Ser	Gly 1115	Cys	Arg	Leu	Thr	Leu 1120	Leu	Arg	Pro	Glu	Lys 1125	Asp	Gly	Ala
Ala	Thr 1130	Arg	Val	Asp	Ala	Val 1135	Cys	Thr	His	Arg	Pro 1140	Asp	Pro	Lys
Ser	Pro 1145	Gly	Leu	Asp	Arg	Glu 1150	Arg	Leu	Tyr	Trp	Lys 1155	Leu	Ser	Gln
Leu	Thr 1160	His	Gly	Ile	Ile	Glu 1165	Leu	Gly	Pro	Tyr	Thr 1170	Leu	Asp	Arg
His	Ser 1175	Phe	Tyr	Val	Asn	Gly 1180	Phe	Thr	His	Gln	Ser 1185	Ser	Met	Thr
Thr	Thr 1190	Arg	Thr	Pro	Asp	Thr 1195	Ser	Thr	Met	His	Leu 1200	Ala	Thr	Ser
Arg	Thr 1205	Pro	Ala	Ser	Leu	Ser 1210	Gly	Pro	Thr	Thr	Ala 1215	Ser	Pro	Leu
Leu	Val 1220	Leu	Phe	Thr	Ile	Asn 1225	Phe	Thr	Ile	Thr	Asn 1230	Gln	Arg	Tyr
Glu	Glu 1235	Asn	Met	His	His	Pro 1240	Gly	Ser	Arg	Lys	Phe 1245	Asn	Thr	Thr
Glu	Arg 1250	Val	Leu	Gln	Gly	Leu 1255	Leu	Arg	Pro	Val	Phe 1260	Lys	Asn	Thr
Ser	Val 1265	Gly	Pro	Leu	Tyr	Ser 1270	Gly	Cys	Arg	Leu	Thr 1275	Leu	Leu	Arg
Pro	Lys 1280	Lys	Asp	Gly	Ala	Ala 1285	Thr	Lys	Val	Asp	Ala 1290	Ile	Cys	Thr
Tyr	Arg 1295	Pro	Asp	Pro	Lys	Ser 1300	Pro	Gly	Leu	Asp	Arg 1305	Glu	Gln	Leu
Tyr	Trp 1310					Leu 1315					Thr 1320	Glu	Leu	Gly
Pro	Tyr 1325		Gln	Asp	Arg	Asp 1330	Ser	Leu	Tyr	Val	Asn 1335	Gly	Phe	Thr
His	Arg 1340	Ser	Ser	Val	Pro	Thr 1345	Thr	Ser	Ile	Pro	Gly 1350	Thr	Ser	Ala
Val	His 1355	Leu	Glu	Thr	Ser	Gly 1360	Thr	Pro	Ala	Ser	Leu 1365	Pro		
<21	0> 48	8												
<21	1> 1	148												

<213> Homo sapiens

<400> 48

Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys
1 5 10 15

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val 20 25 30

Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp 35 40 45

Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Ile 50 55 60

Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Phe Tyr Val Asn Gly 65 70 75 80

Phe Thr His Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser 85 90 95

Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro 100 105 110

Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile 115 120 125

Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys
130 135 140

Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe 145 150 155 160

Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu 165 170 175

Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys 180 185 190

Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu 195 200 205

Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro 210 215 220

Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg 225 230 235 240

Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu 245 250 255

Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly Pro Ser Ala Ala Ser 260 265 270

Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Arg 275 280 285

Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser 315 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 330 Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 360 Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His Tyr Ala Leu Asp 375 Asn Asp Ser Leu Phe Val Asn Gly Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys 410 Thr Pro Ala Ser Ile Phe Gly Pro Ser Ala Ala Ser His Leu Leu Ile 420 425 Leu Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 435 440 445 Met Trp Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln 455 Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr 475 Ser Gly Ser Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Glu Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Thr Gly Pro 505 Gly Leu Asp Arg Glu Gln Leu Tyr Leu Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr 535 Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Thr Gly 545 550 Val Val Ser Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn Asn Leu 570 Arg Tyr Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe Asn Ile 580 Thr Asp Asn Val Met Lys His Leu Leu Ser Pro Leu Phe Gln Arg Ser

595 600 605 Ser Leu Gly Ala Arg Tyr Thr Gly Cys Arg Val Ile Ala Leu Arg Ser 615 Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr Leu 630 635 Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His Glu 645 650 Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser Leu 665 Asp Lys Asp Ser Leu Tr Leu Asn Gly Tyr Asn Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr Pro Lys Pro Ala Thr Thr Phe Leu Pro Pro Leu 695 Ser Glu Ala Thr Thr Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu 705 Asn Phe Thr Ile Ser Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly 730 Ser Ala Thr Phe Asn Ser Thr Glu Gly Val Leu Gln His Leu Leu Arg 740 745 Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln 760 Leu Ile Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln 810 Leu Gly Phe Tyr Val Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His 840 Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr 850 855 Ile Thr Leu Leu Arg Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys 870 875 Gly Ser Gln Leu His Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu Thr Met Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn 905

Leu Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn 915 920 925

Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His 930 935 940

Val Thr Glu Met Glu Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser 945 950 955 960

Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser 965 970 975

Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg 980 985 990

Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys 995 1000 1005

Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro 1010 1015 1020

Asn Arg His His Thr Gly Val Asp Ser Leu Cys Asn Phe Ser Pro 1025 1030 1035

Leu Ala Arg Arg Val Asp Arg Val Ala Ile Tyr Glu Glu Phe Leu 1040 1045 1050

Arg Met Thr Arg Asn Gly Thr Gln Leu Gln Asn Phe Thr Leu Asp 1055 1060 1065

Arg Ser Ser Val Leu Val Asp Gly Tyr Ser Pro Asn Arg Asn Glu 1070 1080

Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe Trp Ala Val Ile Leu 1085 1090 1095

Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile Thr Cys Leu Ile Cys 1100 1105 1110

Gly Val Leu Val Thr Thr Arg Arg Lys Lys Glu Gly Glu Tyr 1115 1120 1125

Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His Leu Asp 1130 1135 1140

Leu Glu Asp Leu Gln 1145

<210> 49

<211> 6833

<212> DNA

<213> Homo sapiens

gagagggttc	tgcagggtct	gctcaaaccc	ttgttcagga	atagcagtct	ggaatacctc	60
tattcaggct	gcagactagc	ctcactcagg	ccagagaagg	atagctcagc	catggcagtg	120
gatgccatct	gcacacatcg	ccctgaccct	gaagacctcg	gactggacag	agagcgactg	180
tactgggagc	tgagcaatct	gacaaatggc	atccaggagc	tgggccccta	caccctggac	240
cggaacagtc	tctatgtcaa	tggtttcacc	catcgaagct	ctatgcccac	caccagcact	300
cctgggacct	ccacagtgga	tgtgggaacc	tcagggactc	catcctccag	ccccagcccc	360
acgactgctg	gccctctcct	gatgccgttc	accctcaact	tcaccatcac	caacctgcag	420
tacgaggagg	acatgcgtcg	cactggctcc	aggaagttca	acaccatgga	gagggttctg	480
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Gln Gly Pro Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu

Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala

Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr

His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 230 235

Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr 245

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 265

Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu

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His	Val 2045		Glu	Met	Glu	Ser 2050		Val	Tyr	Gln	Pro 2055	Thr	Ser	Ser
Ser	Ser 2060		Gln	His	Phe	Tyr 2065		Asn	Phe	Thr	Ile 2070	Thr	Asn	Leu
Pro	Tyr 2075		Gln	Asp	Lys	Ala 2080		Pro	Gly	Thr	Thr 2085	Asn	Tyr	Gln
Arg	Asn 2090		Arg	Asn	Ile	Glu 2095		Ala	Leu	Asn	Gln 2100		Phe	Arg

Asn Ser Ser Ile Lys Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr 2105

Phe Arg Ser Val Pro Asn Arg His His Thr Gly Val Asp Ser Leu

2120 2125 2130

Cvs Asp. Phe Ser Pro Lou Ala Arg Arg Val Arg Val Ala Ila

Cys Asn Phe Ser Pro Leu Ala Arg Arg Val Asp Arg Val Ala Ile 2135 2140 2145

Tyr Glu Glu Phe Leu Arg Met Thr Arg Asn Gly Thr Gln Leu Gln 2150 2155 2160

Asn Phe Thr Leu Asp Arg Ser Ser Val Leu Val Asp Gly Tyr Ser 2165 2170 2175

Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe 2180 2185 2190

Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile 2195 2200 2205

Thr Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg Arg Lys 2210 2220

Lys Glu Gly Glu Tyr Asn Val Gln Gln Gln Cys Pro Gly Tyr Tyr 2225 2230 2235

Gln Ser His Leu Asp Leu Glu Asp Leu Gln 2240 2245

<210> 51

<211> 24

<212> DNA

<213> Artificial

<220>

<223> Synthetic Primer

<400> 51

cagcagagac cagcacgagt actc

<210> 52

<211> 20

<212> DNA

<213> Artificial

24

<400> 55

<220>		
<223>	Synthetic Primer	
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<210>	53	
<211>	22	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400> ccagca	53 cage tetteccagg ac	22
<210>	54	
<211>	22	
<212>	DNA	
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<210>	55	
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cttccc	agga caacctcaag g	21
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<400> gcagga	56 tgag tgagccacgt g	21
<210>	57	
<211>	22	
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<220>		
<223>	Synthetic Primer	
<400> gtcaga	57 totg gtgacctcac tg	22
,		
<210>	58	
<211>	21	
<212>	DNA	
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<220>		
	Synthetic Primer	
<400> gaggca	58 ctgg aaagcccaga g	21
<210>	59	

<212> DNA

<211>	25	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400>	59	25
ctgatg	gcat tatggaacac atcac	
<210>	60	
<211>	22	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400>	60 acga gagaccagtg ag	22
cccaga	acga gagaccageg ag	
<210>	61	
<211>	24	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400>	61 ggcg atgaatgaac actg	24
gergar	ggeg acgaacgaae aeeg	
<210>	62	
<211>	22	

<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400> cccaga	62 acga gagaccagtg ag	22
<210>	63	
<211>	35	
<212>	DNA	
<213>	Artificial	
<220>		
<223>	Synthetic Primer	
<400>	63 tccg aacactgcgt ttgctggctt tgatg	35
egegga	ceeg daedeegege eegeeggeee egeeg	
<210>	64	
<211>	23	
<212>	DNA	
<213>	Artificial	
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<223>	Synthetic Primer	
<400>	64 tgtg ctgcttcatt ggg	23
ccccg		
<210>	65	
<211>	32	
<212>	DNA	
<213>	Artificial	

<220>	
<223> Synthetic Primer	
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<210> 66	
<211> 29	
<212> DNA	
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<220>	
<223> Synthetic Primer	
<400> 66 tgtaagctta ggcagggagg atggagtcc	29
<210> 67	
<211> 507	
<212> DNA	
<213> Homo sapien	
<400> 67	
atgagaggat cgcatcacca tcaccatcac ggatccatgg gccacacaga gcctggccct	60
ctcctgatac cattcacttt caactttacc atcaccaacc tgcattatga ggaaaacatg	120
caacaccctg gttccaggaa gttcaacacc acggagaggg ttctgcaggg tctgctcaag	180
cccttgttca agaacaccag tgttggccct ctgtactctg gctgcagact gaccttgctc	240
agacctgaga agcatgaggc agccactgga gtggacacca tctgtaccca ccgcgttgat	300
cccatcggac ctggactgga cagagagcgg ctatactggg agctgagcca gctgaccaac	360
agcatcacag agctgggacc ctacaccctg gacagggaca gtctctatgt caatggcttc	420
aaccetegga getetgtgee aaccaceage acteetggga eeteeacagt geacetggea	480
acctetggga etecateete eetgeet	507

<211> 169

<212> PRT

<213> Homo sapiens

<400> 68

Met Arg Gly Ser His His His His His Gly Ser Met Gly His Thr 1 $$ 5 $$ 10 $$ 15

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr 20 25 30

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 35 40 45

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Lys Pro Leu Phe Lys 50 55 60

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 65 70 75 80

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr 85 90 95

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr \$100\$ \$105\$ \$110\$

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr 115 120 125

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser 130 135 140

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala 145 150 155 160

Thr Ser Gly Thr Pro Ser Ser Leu Pro 165

<210> 69

<211> 909

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> (1)..(909)

<223> Any "X" = any amino acid

<400> 69

Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser
1 10 15

Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys 20 25 30

Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro $85 \\ 90 \\ 95$

Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Ile 115 120 125

Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 . 190

Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 215 220

Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 260 265 270

Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 275 280 285

Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly 310 315 Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser 330 Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr His Arg Pro Asp Pro Lys Ser Pro Gly 360 Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly 405 410 Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Pro 425 Ser Pro Thr Thr Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys Pro 470 475 Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu 520 515 Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu 535 540 Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala Val 570 His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr Ala 580

Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn

600 605 595 Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn 615 Thr Met Glu Arg Val Leu Gln Gly Cys Leu Val Pro Cys Ser Arg Asn 635 Thr Asn Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr Xaa Val Asp Xaa Xaa Cys Xaa Xaa 665 Xaa Xaa Asp Pro Xaa Xaa Pro Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Thr 695 Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser 705 Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Val Pro Leu Leu 740 745 Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu 760 Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val 775 770 Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro 795 Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly 805 810 Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Val Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser 875 870 Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser 885 Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile

<210> 70

<211> 525

<212> PRT

<213> Homo sapiens

<400> 70

Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala 20 25 30

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn 35 40 45

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 50 55 60

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu 65 70 75 80

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr 85 90 95

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser 100 105 110

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu 115 120 125

Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro 130 135 140

Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu 145 150 155 160

Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys

Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val

Asp Ala Ala Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp 195 200 205

Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr 210 215 220

Glu Leu Gly Pro Tyr Thr Leu Asp Arg Val Ser Leu Tyr Val Asn Gly 225 230 235 240

Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser 245 250 255

Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His 265 Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile 280 285 Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys 295 Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys 345 Thr His His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu 360 Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro 370 375 Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly Phe Thr His Trp Ser Pro Ile Pro Thr Thr Ser Thr Pro Gly Thr Ser Ile Val Asn Leu 410 Gly Thr Ser Gly Ile Pro Pro Ser Leu Pro Glu Thr Thr Ala Thr Gly 425 Pro Leu Leu Ile Pro Phe Thr Pro Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met 455 Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser 475 470 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu 490 485 Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr 520 515 <210> 71 <211> 594 <212> PRT

<213> Homo sapiens

<400> 71

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro 35 40 45

Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp
65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu 100 105 110

Thr Pro Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met His Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Ser Glu
195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 210 215 220

Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu 225 230 235 240

Tyr Val Asn Gly Phe Thr His Ser Gly Val Leu Cys Pro Pro Ser 245 250 255

Ile Leu Gly Ile Phe Thr Val Gln Pro Glu Thr Phe Glu Thr Pro Ser 260 265 270

Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe Thr 275 280 285

Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His Arg 295 Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 310 Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly 330 325 Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly 345 Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile 375 370 Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn 390 395 Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly 425 His Thr Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr 440 Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg 455 Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu 470 Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr 485 Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile 505 Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln 515 Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly 535 Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His 555 550 Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp 565 Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Gly 585

Pro Leu

<210> 72

<211> 424

<212> PRT

<213> Homo sapiens

<400> 72

Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Tyr Thr His
20 25 30

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp 35 40 45

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 50 55 60

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser 65 70 75 80

Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr 85 90 95

Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu 100 105 110

Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu 115 120 125

Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Met Glu Arg 130 135 140

Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly
145 150 155 160

Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp 165 170 175

Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro 180 185 190

Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp Glu Leu Ser Gln 195 200 205

Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp 210 215 220

Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr 225 230 235 240

Ser Thr Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro 245 250 255

Ser Ser Leu Pro Gly Pro Thr Ala Thr Gly Pro Val Leu Leu Pro Phe 260 265 270

Thr Leu Asn Phe Thr Ile Ile Asn Leu Gln Tyr Glu Glu Asp Met His 275 280 285

Arg Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly 290 295 300

Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser 305 310 315 320

Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys His Gly Ala Ala Thr 325 330 335

Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly Pro Gly 340 345 350

Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser 355 360 365

Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val 370 380

Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly 385 390 395 400

Gly His Thr Ala Pro Val Pro Leu

<210> 73

<211> 286

<212> PRT

<213> Homo sapiens

<400> 73

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 1 5 10 15

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu 20 25 30

Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu 35 40 45

Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Pro 85 90 95

Thr Thr Ser Ile Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly 100 105 110

Thr Pro Ala Ser Leu Pro Gly His Thr Ala Pro Gly Pro Leu Leu Val

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 140

Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala 180 185 190

Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr 210 220

Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu 225 235 240

Tyr Val Asn Gly Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr 245 250 255

Pro Gly Thr Ser Thr Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser 260 265 270

Leu Pro Arg Pro Ile Val Pro Gly Pro Leu Leu Ile Pro Phe 275 280 285

<210> 74

<211> 286

<212> PRT

<213> Homo sapiens

<400> 74

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys

20 25 30 Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly 105 Thr Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 130 135 Met His Arg Pro Gly Ser Arg Lys Phe Asn Ala Thr Glu Arg Val Leu 150 155 Gln Gly Leu Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg 195 Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr 215 His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu 225 230 Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser 260 Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 280 <210> 75 <211> 286 <212> PRT <213> Homo sapiens

<400> 75

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly Phe Ser Arg Gln Ser Ser Met Thr Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 135 130 Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 155 150 Gln Gly Leu Leu Asn Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu 165 Tyr Ser Gly Cys Arg Leu Thr Ser Leu Lys Pro Glu Lys Asp Gly Ala 185 Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser

265

Leu Pro Ser Pro Thr Thr Ala Val Pro Leu Leu Ile Pro Phe

<210> 76

<211> 286

<212> PRT

<213> Homo sapiens

<400> 76

Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Arg Asn Ser Ser 1 5 10 15

Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu Arg Pro Glu 20 25 30

Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu 50 55 60

Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp 70 75 80

Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Gly Leu 85 90 95

Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly 100 105 110

Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn 130 135 140

Met Gly His Pro Gly Ser Arg Lys Phe Asn Ile Met Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Ala 180 185 190

Ala Thr Arg Val Asp Ala Val Cys Thr Gln Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Lys Leu Ser Gln Leu Thr 210 215 220

His Gly Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg His Ser Leu 225 230 235 240

Tyr Val Asn Gly Leu Thr His Gln Ser Ser Met Thr Thr Arg Thr 245 250 255

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser 260 265 270

Leu Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Ile Pro Phe 275 280 285

<210> 77

<211> 288

<212> PRT

<213> Homo sapiens

<400> 77

Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Ser Lys Asn Ser Ser $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu 20 25 30

Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro 35 40 45

Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu 50 55 60

Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp 65 70 75 80

Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro 85 90 95

Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly 100 105 110

Thr Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile 115 120 125

Pro Phe Thr Val Asn Phe Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn 130 135 140

Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 150 155 160

Gln Gly Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170 175

Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala 180 185 190

Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser 195 200 205

Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr

210 215 220 Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu 230 235 Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr 250 245 Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu Ile Pro Phe 280 <210> 78 <211> 597 <212> PRT <213> Homo sapiens <400> 78 Glu Arg Val Leu His Gly Leu Leu Thr Pro Leu Phe Lys Asn Thr Arg Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly 105 Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro Leu Leu Ile 115 120 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn 135 Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu 145 Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu 165 170

Tyr Ser Gly Cys Arg Leu Thr Leu Phe Lys Pro Glu Lys His Glu Ala 185 Ala Thr Gly Val Asp Ala Ile Cys Thr Leu Arg Leu Asp Pro Thr Gly 200 Pro Gly Leu Asp Arg Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asp Ser Leu Tyr 230 235 Val Asn Gly Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro 250 Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu 265 Pro Gly His Thr Ala Pro Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn 275 280 Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly 295 Ser Arg Lys Phe Asn Thr Met Glu Arg Val Leu Gln Gly Leu Leu Lys 315 Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp 345 Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly Phe 385 390 Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr Pro Gly Thr Ser Thr 410 405 Val His Leu Gly Thr Ser Glu Thr Pro Ser Ser Leu Pro Arg Pro Ile 420 425 Val Pro Gly Pro Leu Leu Ile Pro Phe Thr Ile Asn Phe Thr Ile Thr 440 Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe 450 Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Leu Phe Lys 475 Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Ile Ser Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr 500 505 510

His His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr 515 520 525

Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr 530 535 540

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser 545 550 555 560

Ser Gly Leu Thr Thr Ser Thr Pro Trp Thr Ser Thr Val Asp Leu Gly 565 570 575

Thr Ser Gly Thr Pro Ser Pro Val Pro Ser Pro Thr Thr Ala Gly Pro 580 585 590

Leu Leu Ile Pro Phe 595

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<211> 420

<212> PRT

<213> Homo sapiens

<400> 79

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys
1 10 15

Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn 20 25 30

Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser 35 40 45

Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg 50 55 60

Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr 65 70 75 80

Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr 85 90 95

Pro Ser Ser Phe Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro 100 105 110

Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asn Met 115 120 125

Gly His Pro Gly Ser Arg Lys Phe Asn Ile Thr Glu Ser Val Leu Gln

	130					135					140				
Gly 145	Leu	Leu	Thr	Pro	Leu 150	Phe	Lys	Asn	Ser	Ser 155	Val	Gly	Pro	Leu	Туг 160
Ser	Gly	Cys	Arg	Leu 165	Ile	Ser	Leu	Arg	Ser 170		Lys	Asp	Gly	Ala 175	Ala
Thr	Gly	Val	Asp 180	Ala	Ile	Cys	Thr	His 185	His	Leu	Asn	Pro	Gln 190	Ser	Pro
Gly	Leu	Asp 195	Arg	Glu	Gln	Leu	Tyr 200	Trp	Gln	Leu	Ser	Gln 205	Met	Thr	Asn
Gly	Ile 210	Lys	Glu	Leu	Gly	Pro 215	Tyr	Thr	Leu	Asp	Arg 220	Asp	Ser	Leu	Tyr
Val 225	Asn	Gly	Phe	Thr	His 230	Arg	Ser	Leu	Gly	Leu 235	Thr	Thr	Ser	Thr	Pro 240
Trp	Thr	Ser	Thr	Val 245	Asp	Leu	Gly	Thr	Ser 250	Gly	Thr	Pro	Ser	Pro 255	Val
Pro	Ser	Pro	Thr 260	Thr	Ala	Gly	Pro	Leu 265	Leu	Ile	Pro	Phe	Thr 270	Leu	Asn
Phe	Thr	Ile 275	Thr	Asn	Leu	Gln	Tyr 280	Glu	Glu	Asn	Met	Gly 285	His	Pro	Gly
Ser	Arg 290	Lys	Phe	Asn	Ile	Met 295	Glu	Arg	Val	Leu	Gln 300	Gly	Leu	Leu	Arg
Pro 305	Val	Phe	Lys	Asn	Thr 310	Ser	Val	Gly	Pro	Leu 315	Tyr	Ser	Gly	Cys	Arg 320
Leu	Thr	Leu	Leu	Arg 325	Pro	Lys	Lys	Asp	Gly 330	Ala	Ala	Thr	Lys	Val 335	Asp
Ala	Ile	Cys	Thr 340	Tyr	Arg	Pro	Asp	Pro 345	Lys	Ser	Pro	Gly	Leu 350	Asp	Arg
Glu	Gln	Leu 355	Tyr	Trp	Glu	Leu	Ser 360	Gln	Leu	Thr	His	Ser 365	Ile	Thr	Glu
Leu	Gly 370	Pro	Tyr	Thr	Leu	Asp 375	Arg	Asp	Ser	Leu	Tyr 380	Val	Asn	Gly	Phe
Thr 385	Gln	Arg	Ser	Ser	Val 390	Pro	Thr	Thr	Ser	Ile 395	Pro	Gly	Thr	Pro	Thr 400
Val	Asp	Leu	Gly	Thr 405	Ser	Gly	Thr	Pro	Val 410	Ser	Lys	Pro	Gly	Pro 415	Ser
Ala	Ala	Ser	Pro 420												
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<211> 479

<212> PRT

<213> Homo sapiens

<400> 80

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Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr 20 25 30

His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val
35 40 45

Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser Leu Ser Ser Pro Thr Ile 50 55 60

Met Ala Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile 65 70 75 80

Thr Asn Leu Gln Tyr Glu Glu Asn Met Gly His Pro Gly Ser Arg Lys 85 90 95

Phe Asn Ile Met Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe 100 105 110

Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu 115 120 125

Leu Arg Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys 130 135 140

Ser His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu 145 150 155 160

Tyr Trp Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro 165 170 175

Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg 180 185 190

Ser Ser Val Ala Pro Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu 195 200 205

Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Thr Ala Val 210 215 220

Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys 225 230 235 240

Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe Asn Thr Thr 245 250 255

Glu Arg Val Leu Gln Ser Leu Phe Gly Pro Met Phe Lys Asn Thr Ser

		260					265					270		
Val G	ly Pr 27	o Leu 5	Tyr	Ser	Gly	Cys 280	Arg	Leu	Thr	Leu	Leu 285	Arg	Ser	Glu
_	sp Gl 90	y Ala	Ala	Thr	Gly 295	Val	Asp	Ala	Ile	Cys 300	Thr	His	Arg	Leu
Asp P. 305	ro Ly	s Ser	Leu	Gly 310	Val	Asp	Arg	Glu	Gln 315	Leu	Tyr	Trp	Glu	Leu 320
Ser G	ln Le	u Thr	Asn 325	Gly	Ile	Lys	Glu	Leu 330	Gly	Pro	Tyr	Thr	Leu 335	Asp
Arg A	sn Se	r Leu 340	Tyr	Val	Asn	Gly	Phe 345	Thr	His	Gln	Thr	Ser 350	Ala	Pro
Asn T	hr Se 35		Pro	Gly	Thr	Ser 360	Thr	Val	Asp	Leu	Gly 365	Thr	Ser	Gly
	ro Se 70	r Ser	Leu	Pro	Ser 375	Pro	Thr	Ser	Ala	Gly 380	Pro	Leu	Leu	Val
Pro Pl 385	he Th	r Leu	Asn	Phe 390	Thr	Ile	Thr	Asn	Leu 395	Gln	Tyr	Glu	Glu	Asp 400
Met A	rg Ar	g Thr	Gly 405	Ser	Arg	Lys	Phe	Asn 410	Thr	Met	Glu	Ser	Val 415	Leu
Gln G	ly Le	u Leu 420	Lys	Pro	Leu	Phe	Lys 425	Asn	Thr	Ser	Val	Gly 430	Pro	Leu
Tyr Se	er Gl 43		Arg	Leu	Thr	Leu 440	Leu	Arg	Pro	Glu	Lys 445	Asp	Gly	Ala
Ala Th	nr Gl 50	y Val	Asp	Ala	Ile 455	Cys	Thr	His	Arg	Leu 460	Asp	Pro	Lys	Ser
Pro GI 465	ly Le	u Asn	Arg	Glu 470	Gln	Leu	Tyr	Trp	Glu 475	Leu	Ser	Lys	Leu	
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ggttga	acaaq	aacto	ataa	ic at	tato	ıgaac	: aca	tcac	aaa	aata	ccca	at o	aadc	agcac

acagaggtac cataagacca gtcaaaggcc ctcagacatc cacttcgcct gccagtccta

aaggactaca cacaggaggg acaaaaagaa tggagaccac caccacagct ttgaagacca

60

300 ccaccacage tttgaagace acttecagag ccacettgae caccagtgte tatactecca 360 ctttgggaac actgactccc ctcaatgcat caaggcaaat ggccagcaca atcctcacag aaatgatgat cacaacccca tatgttttcc ctgatgttcc agaaacgaca tcctcattgg 420 ctaccageet gggageagaa accageacag etetteecag gacaaceeca tetgttetea 480 atagagaatc agagaccaca gcctcactgg tctctcgttc tggggcagag agaagtccgg 540 600 ttattcaaac tctagatgtt tcttctagtg agccagatac aacagcttca tgggttatcc 660 atcctgcaga gaccatccca actgtttcca agacaacccc caattttttc cacagtgaat tagacactgt atcttccaca gccaccagtc atggggcaga cgtcagctca gccattccaa 720 780 caaatatete acctagtgaa etagatgcae tgaccecaet ggteaetatt teggggaeag 840 atactagtac aacattccca acactgacta agtccccaca tgaaacagag acaagaacca 900 catggctcac tcatcctgca gagaccagct caactattcc cagaacaatc cccaattttt ctcatcatga atcagatgcc acacettcaa tagecaceag teetggggca gaaaceagtt 960 1020 cagctattcc aattatgact gtctcacctg gtgcagaaga tctggtgacc tcacaggtca 1080 ctagttctgg gacagacaga aatatgacta ttccaacttt gactctttct cctggtgaac 1140 caaagacgat agcctcatta gtcacccatc ctgaagcaca gacaagttcg gccattccaa cttcaactat ctcgcctgct gtatcacggt tggtgacctc aatggtcacc agtttggcgg 1200 1260 caaagacaag tacaactaat cgagctctga caaactcccc tggtgaacca gctacaacag tttcattggt cacgcatcct gcacagacca gcccaacagt tccctggaca acttccattt 1320 1380 ttttccatag taaatcagac accacacctt caatgaccac cagtcatggg gcagaatcca gttcagctgt tccaactcca actgtttcaa ctgaggtacc aggagtagtg acccctttgg 1440 1500 tcaccagttc tagggcagtg atcagtacaa ctattccaat tctgactctt tctcctggtg aaccagagac cacacettca atggccacca gtcatgggga agaagccagt tetgetatte 1560 caactccaac tgtttcacct ggggtaccag gagtggtgac ctctctggtc actagttcta 1620 1680 gggcagtgac tagtacaact attccaattc tgactttttc tcttggtgaa ccagagacca 1740 caccttcaat ggccaccagt catgggacag aagctggctc agctgttcca actgttttac ctgaggtacc aggaatggtg acctctctgg ttgctagttc tagggcagta accagtacaa 1800 1860 ctcttccaac tctgactctt tctcctggtg aaccagagac cacaccttca atggccacca gtcatggggc agaagccagc tcaactgttc caactgtttc acctgaggta ccaggagtgg 1920 tgacctctct ggtcactagt tctagtggag taaacagtac aagtattcca actctgattc 1980 tttctcctgg tgaactagaa accacacctt caatggccac cagtcatggg gcagaagcca 2040 2100 gctcagctgt tccaactcca actgtttcac ctggggtatc aggagtggtg accectctgg 2160 tcactagttc cagggcagtg accagtacaa ctattccaat tctaactctt tcttctagtg agccagagac cacacettca atggccacca gtcatggggt agaagccage tcagetgtte 2220 taactgtttc acctgaggta ccaggaatgg tgacctctct ggtcactagt tctagagcag 2280 taaccagtac aactattcca actctgacta tttcttctga tgaaccagag accacaactt 2340 cattggtcac ccattctgag gcaaagatga tttcagccat tccaacttta gctgtctccc 2400 ctactgtaca agggctggtg acttcactgg tcactagttc tgggtcagag accagtgcgt 2460 2520 tttcaaatct aactgttgcc tcaagtcaac cagagaccat agactcatgg gtcgctcatc 2580 ctgggacaga agcaagttct gttgttccaa ctttgactgt ctccactggt gagccgttta caaatatete attggteace cateetgeag agagtagete aactetteee aggaeaacet 2640 2700 caaggttttc ccacagtgaa ttagacacta tgccttctac agtcaccagt cctgaggcag aatccagctc agccatttca actactattt cacctggtat accaggtgtg ctgacatcac 2760 2820 tggtcactag ctctgggaga gacatcagtg caacttttcc aacagtgcct gagtccccac 2880 atgaatcaga ggcaacagcc tcatgggtta ctcatcctgc agtcaccagc acaacagttc 2940 ccaggacaac ccctaattat tctcatagtg aaccagacac cacaccatca atagccacca 3000 gtcctggggc agaagccact tcagattttc caacaataac tgtctcacct gatgtaccag 3060 atatggtaac ctcacaggtc actagttctg ggacagacac cagtataact attccaactc tgactctttc ttctggtgag ccagagacca caacctcatt tatcacctat tctgagacac 3120 acacaagttc agccattcca actotecety teteceetyg tycatcaaag atgetyaeet 3180 cactggtcat cagttctggg acagacagca ctacaacttt cccaacactg acggagaccc 3240 3300 catatgaacc agagacaaca gccatacagc tcattcatcc tgcagagacc aacacaatgg 3360 ttcccaagac aactcccaag ttttcccata gtaagtcaga caccacactc ccagtagcca 3420 teaceagtee tgggeeagaa geeagtteag etgttteaac gaeaactate teacetgata 3480 tgtcagatct ggtgacctca ctggtcccta gttctgggac agacaccagt acaaccttcc 3540 caacattgag tgagacccca tatgaaccag agactacagt cacgtggctc actcatcctg 3600 cagaaaccag cacaacggtt tctgggacaa ttcccaactt ttcccatagg ggatcagaca ctgcaccete aatggtcace agtcetggag tagacacgag gtcaggtgtt ccaactacaa 3660 3720 ccatcccacc cagtatacca ggggtagtga cctcacaggt cactagttct gcaacagaca ctagtacage tattccaact ttgactcctt ctcctggtga accagagace acagcctcat 3780



<210> 82

<211> 1821

<212> PRT

<213> Homo sapiens

<400> 82

Glu Ser Val Leu Glu Gly Thr Val Thr Ser Ala Tyr Gln Val Pro Ser
1 5 10 15

Leu Ser Thr Arg Leu Thr Arg Thr Asp Gly Ile Met Glu His Ile Thr
20 25 30

Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr Ile Arg Pro Val Lys 35 40 45

Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro Lys Gly Leu His Thr 50 55 60

Gly Gly Thr Lys Arg Met Glu Thr Thr Thr Thr Ala Leu Lys Thr Thr 65 70 75 80

Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr Leu Thr Thr Ser Val 85 90 95

Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu Asn Ala Ser Arg Gln
100 105 110

Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile Thr Thr Pro Tyr Val 115 120 125

Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu Ala Thr Ser Leu Gly 130 135 140

Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr Pro Ser Val Leu Asn 145 150 155 160

Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser Arg Ser Gly Ala Glu 165 170 175

Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser Ser Glu Pro Asp 180 185 190

Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu Thr Ile Pro Thr Val 195 200 205

Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu Leu Asp Thr Val Ser 210 215 220

Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser Ser Ala Ile Pro Thr 225 230 235 240

Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr Pro Leu Val Thr Ile

245 250 255 Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr Leu Thr Lys Ser Pro 265 His Glu Thr Glu Thr Arg Thr Trp Leu Thr His Pro Ala Glu Thr 280 Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe Ser His His Glu Ser 295 Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Thr Ser Ser 310 315 Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala Glu Asp Leu Val Thr 330 Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile Ala Ser Leu Val Thr 355 His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro Thr Ser Thr Ile Ser 375 Pro Ala Val Ser Arg Leu Val Thr Ser Met Val Thr Ser Leu Ala Ala 395 390 385 Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn Ser Pro Gly Glu Pro 405 410 Ala Thr Thr Val Ser Leu Val Thr His Pro Ala Gln Thr Ser Pro Thr 430 420 425 Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser Lys Ser Asp Thr Thr 440 Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Ile Ser Thr Thr Ile Pro Ile Leu Thr Leu 485 490 Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly 505 Glu Glu Ala Ser Ser Ala Ile Pro Thr Pro Thr Val Ser Pro Gly Val 520 Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser 530 535 Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr 555 550

Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala Gly Ser Ala Val Pro 570 565 Thr Val Leu Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Ala Ser 585 Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro 600 Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu 615 Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu Val Pro Gly Val Val 630 635 625 Thr Ser Leu Val Thr Ser Ser Ser Gly Val Asn Ser Thr Ser Ile Pro 645 Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr Thr Pro Ser Met Ala 665 660 Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val Pro Thr Pro Thr Val 685 680 Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg 695 Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Ser Glu 715 Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Val Glu Ala Ser 730 Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Thr Leu 765 Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr Thr Ser Leu Val Thr His 775 Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr Leu Ala Val Ser Pro 795 790 Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr Ser Ser Gly Ser Glu 810 Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser Ser Gln Pro Glu Thr 825 Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu Ala Ser Ser Val Val 840 835 Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe Thr Asn Ile Ser Leu 855 860 Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu Pro Arg Thr Thr Ser 875 870

Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr Thr Ile Ser Pro Gly 905 Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser Ser Gly Arg Asp Ile 920 Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr His Pro Ala Val Thr Ser Thr Thr Val Pro 950 Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro Asp Thr Thr Pro Ser 965 Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser Asp Phe Pro Thr Ile 985 980 Thr Val Ser Pro Asp Val Pro Asp Met Val Thr Ser Gln Val Thr Ser 1000 Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr Leu Thr Leu Ser 1015 1020 Ser Gly Glu Pro Glu Thr Thr Thr Ser Phe Ile Thr Tyr Ser Glu 1035 1030 1025 Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val Ser Pro Gly 1045 1040 Ala Ser Lys Met Leu Thr Ser Leu Val Ile Ser Ser Gly Thr Asp 1060 Ser Thr Thr Thr Phe Pro Thr Leu Thr Glu Thr Pro Tyr Glu Pro 1075 1070 Glu Thr Thr Ala Ile Gln Leu Ile His Pro Ala Glu Thr Asn Thr 1090 Met Val Pro Arg Thr Thr Pro Lys Phe Ser His Ser Lys Ser Asp 1110 1105 1100 Thr Thr Leu Pro Val Ala Ile Thr Ser Pro Gly Pro Glu Ala Ser 1120 1125 1115 Ser Ala Val Ser Thr Thr Ile Ser Pro Asp Met Ser Asp Leu 1135 1130 Val Thr Ser Leu Val Pro Ser Ser Gly Thr Asp Thr Ser Thr Thr 1150 Phe Pro Thr Leu Ser Glu Thr Pro Tyr Glu Pro Glu Thr Thr Ala 1160 1165 Thr Trp Leu Thr His Pro Ala Glu Thr Ser Thr Thr Val Ser Gly

	1175					1180					1185			
Thr	Ile 1190	Pro	Asn	Phe	Ser	His 1195	Arg	Gly	Ser	Asp	Thr 1200	Ala	Pro	Ser
Met	Val 1205	Thr	Ser	Pro	Gly	Val 1210	Asp	Thr	Arg	Ser	Gly 1215	Val	Pro	Thr
Thr	Thr 1220	Ile	Pro	Pro	Ser	Ile 1225	Pro	Gly	Val	Val	Thr 1230	Ser	Gln	Val
Thr	Ser 1235	Ser	Ala	Thr	Asp	Thr 1240	Ser	Thr	Ala	Ile	Pro 1245	Thr	Leu	Thr
Pro	Ser 1250	Pro	Gly	Glu	Pro	Glu 1255	Thr	Thr	Ala	Ser	Ser 1260	Ala	Thr	His
Pro	Gly 1265		Gln	Thr	Gly	Phe 1270	Thr	Val	Pro	Ile	Arg 1275	Thr	Val	Pro
Ser	Ser 1280	Glu	Pro	Asp	Thr	Met 1285	Ala	Ser	Trp	Val	Thr 1290	His	Pro	Pro
Gln	Thr 1295		Thr	Pro	Val	Ser 1300	Arg	Thr	Thr	Ser	Ser 1305	Phe	Ser	His
Ser	Ser 1310		Asp	Ala	Thr	Pro 1315		Met	Ala	Thr	Ser 1320	Pro	Arg	Thr
Glu	Ala 1325		Ser	Ala	Val	Leu 1330		Thr	Ile	Ser	Pro 1335	Gly	Ala	Pro
Glu	Met 1340		Thr	Ser	Gln	Ile 1345		Ser	Ser	Gly	Ala 1350	Ala	Thr	Ser
Thr	Thr 1355		Pro	Thr	Leu	Thr 1360		Ser	Pro	Gly	Met 1365	Pro	Glu	Thr
Thr	Ala 1370		Leu	Ser	Thr	His 1375		Arg	Thr	Glu	Thr 1380	Ser	Lys	Thr
Phe	Pro 1385		Ser	Thr	Val	Phe 1390	Pro	Gln	Val	Ser	Glu 1395	Thr	Thr	Ala
Ser	Leu 1400		Ile	Arg	Pro	Gly 1405		Glu	Thr	Ser	Thr 1410	Ala	Leu	Pro
Thr	Gln 1415		Thr	Ser	Ser	Leu 1420		Thr	Leu	Leu	Val 1425	Thr	Gly	Thr
Ser	Arg 1430		. Asp	Leu	Ser	Pro 1435	Thr	Ala	Ser	Pro	Gly 1440	Val	Ser	Ala
Lys	Thr 1445		a Pro	Leu	. Ser	Thr 1450	His	Pro	Gly	Thr	Glu 1455	Thr	Ser	Thr
Met	: Ile 1460		Thr	Ser	Thr	Leu 1465		Leu	Gly	Leu	Leu 1470	Glu	Thr	Thr

Gly	Leu 1475	Leu	Ala	Thr	Ser	Ser 1480	Ser	Ala	Glu	Thr	Ser 1485	Thr	Ser	Thr
Leu	Thr 1490	Leu	Thr	Val	Ser	Pro 1495	Ala	Val	Ser	Gly	Leu 1500	Ser	Ser	Ala
Ser	Ile 1505	Thr	Thr	Asp	Lys	Pro 1510	Gln	Thr	Val	Thr	Ser 1515	Trp	Asn	Thr
Glu	Thr 1520	Ser	Pro	Ser	Val	Thr 1525		Val	Gly	Pro	Pro 1530	Glu	Phe	Ser
Arg	Thr 1535	Val	Thr	Gly	Thr	Thr 1540	Met	Thr	Leu	Ile	Pro 1545	Ser	Glu	Met
Pro	Thr 1550	Pro	Pro	Lys	Thr	Ser 1555	His	Gly	Glu	Gly	Val 1560	Ser	Pro	Thr
Thr	Ile 1565	Leu	Arg	Thr	Thr	Met 1570	Val	Glu	Ala	Thr	Asn 1575	Leu	Ala	Thr
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120

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Homo sapiens

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caccgcgttg atcccatcgg acctggactg nacagngagc ngctntactg ggagctnagc 300
canctgacca annncatenn ngagctgggn ccctacaccc tggacaggna cagtctctat 360

gtcaatggt	t tcacccatcn	ganctctgng	cccaccacca	gcactcctgg	gacctccaca	420
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gtcaat	ggtt	tcacccatca	gacctttgcg	cccaacacca	gcactcctgg	gacctccaca	420
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Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr 105 Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro 150 155 Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr 165 170 Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu 180 185 Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys 215 Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr Leu Asp Arg 265 Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr 280 Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr 290 295 Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Ala Gly Pro Leu Leu 315 Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu 325 Asp Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro 355

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Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys 695 Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln 745 Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly 775 Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln 785 790 795 Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe Asn Thr Thr 810 Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Ser Thr Ser 825 Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu 855 Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp 885 890 Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr Ser Ala Pro 905 900 Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr Ser Ala Gly Pro Leu Leu Val 930 935 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Glu Glu Asp 950 955 Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu 985 Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asn Gly Ala 995 1000 1005

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Phe	Thr 1415	Phe	Asn	Phe	Thr	Ile 1420	Thr	Asn	Leu	His	Tyr 1425	Glu	Glu	Asn
Met	Gln 1430	His	Pro	Gly	Ser	Arg 1435	Lys	Phe	Asn	Thr	Thr 1440	Glu	Arg	Val
Leu	Gln 1445	Gly	Leu	Leu	Lys	Pro 1450	Leu	Phe	Lys	Asn	Thr 1455	Ser	Val	Gly
Pro	Leu 1460	Tyr	Ser	Gly	Cys	Arg 1465	Leu	Thr	Ser	Leu	Arg 1470	Pro	Glu	Lys
Asp	Gly 1475	Ala	Ala	Thr	Gly	Met 1480	Asp	Ala	Val	Cys	Leu 1485	Tyr	His	Pro
Asn	Pro 1490	Lys	Arg	Pro	Gly	Leu 1495	Asp	Arg	Glu	Gln	Leu 1500	Tyr	Cys	Glu
Leu	Ser 1505	Gln	Leu	Thr	His	Asn 1510	Ile	Thr	Glu	Leu	Gly 1515	Pro	Tyr	Ser
Leu	Asp 1520	Arg	Asp	Ser	Leu	Tyr 1525	Val	Asn	Gly	Phe	Thr 1530	His	Gln	Asn
Ser	Val 1535	Pro	Thr	Thr	Ser	Thr 1540	Pro	Gly	Thr	Ser	Thr 1545	Val	Tyr	Trp
Ala	Thr 1550	Thr	Gly	Thr	Pro	Ser 1555	Ser	Phe	Pro	Gly	His 1560	Thr	Glu	Pro
Gly	Pro 1565	Leu	Leu	Ile	Pro	Phe 1570	Thr	Phe	Asn	Phe	Thr 1575	Ile	Thr	Asn
Leu	His 1580	Tyr	Glu	Glu	Asn	Met 1585	Gln	His	Pro	Gly	Ser 1590	Arg	Lys	Phe

Asn	Thr 1595		Glu	Arg	Val	Leu 1600		Gly	Leu	Leu	Lys 1605		Leu	Phe
Lys	Asn 1610	Thr	Ser	Val	Gly	Pro 1615	Leu	Tyr	Ser	Gly	Cys 1620	Arg	Leu	Thr
Leu	Leu 1625		Pro	Glu	Lys	His 1630		Ala	Ala	Thr	Gly 1635		Asp	Thr
Ile	Cys 1640	Thr	His	Arg	Val	Asp 1645	Pro	Ile	Gly	Pro	Gly 1650	Leu	Asp	Arg
Glu	Arg 1655	Leu	Tyr	Trp	Glu	Leu 1660		Gln	Leu	Thr	Asn 1665	Ser	Ile	Thr
Glu	Leu 1670	Gly	Pro	Tyr	Thr	Leu 1675		Arg	Asp	Ser	Leu 1680	Tyr	Val	Asn
Gly	Phe 1685	Asn	Pro	Arg	Ser	Ser 1690	Val	Pro	Thr	Thr	Ser 1695	Thr	Pro	Gly
Thr	Ser 1700	Thr	Val	His	Leu	Ala 1705		Ser	Gly	Thr	Pro 1710	Ser	Ser	Leu
Pro	Gly 1715	His	Thr	Ala	Pro	Val 1720	Pro	Leu	Leu	Ile	Pro 1725	Phe	Thr	Leu
Asn	Phe 1730	Thr	Ile	Thr	Asn	Leu 1735	His	Tyr	Glu	Glu	Asn 1740	Met	Gln	His
Pro	Gly 1745	Ser	Arg	Lys	Phe	Asn 1750	Thr	Thr	Glu	Arg	Val 1755	Leu	Gln	Gly
Leu	Leu 1760	Lys	Pro	Leu	Phe	Lys 1765	Asn	Thr	Ser	Val	Gly 1770	Pro	Leu	Tyr
Ser	Gly 1775	Cys	Arg	Leu	Thr	Leu 1780	Leu	Arg	Pro	Glu	Lys 1785	His	Glu	Ala
Ala	Thr 1790	Gly	Val	Asp	Thr	Ile 1795	Cys	Thr	His	Arg	Val 1800	Asp	Pro	Ile
Gly	Pro 1805	Gly	Leu	Asp	Arg	Glu 1810	Xaa	Leu	Tyr	Trp	Glu 1815	Leu	Ser	Xaa
Leu	Thr 1820	Xaa	Xaa	Ile	Xaa	Glu 1825	Leu	Gly	Pro	Tyr	Xaa 1830	Leu	Asp	Arg
Xaa	Ser 1835	Leu	Tyr	Val	Asn	Gly 1840	Phe	Xaa	Xaa	Xaa	Xaa 1845	Xaa	Xaa	Xaa
Xaa	Thr 1850	Ser	Thr	Pro	Gly	Thr 1855	Ser	Xaa	Val	Xaa	Leu 1860	Xaa	Thr	Ser
Gly	Thr 1865	Pro	Xaa	Xaa	Xaa	Pro 1870	Xaa	Xaa	Thr	Ser	Ala 1875	Gly	Pro	Leu
Leu	Val 1880	Pro	Phe	Thr	Leu	Asn 1885	Phe	Thr	Ile	Thr	Asn 1890	Leu	Gln	Tyr

Glu	Glu 1895		Met	His	His	Pro 1900		Ser	Arg	Lys	Phe 1905		Thr	Thr
Glu	Arg 1910	Val	Leu	Gln	Gly	Leu 1915	Leu	Gly	Pro	Met	Phe 1920	_	Asn	Thr
Ser	Val 1925	Gly	Leu	Leu	Tyr	Ser 1930		Cys	Arg	Leu	Thr 1935		Leu	Arg
Pro	Glu 1940	Lys	Asn	Gly	Ala	Ala 1945		Gly	Met	Asp	Ala 1950		Cys	Ser
His	Arg 1955	Leu	Asp	Pro	Lys	Ser 1960		Gly	Leu	Asp	Arg 1965		Gln	Leu
Tyr	Trp 1970	Glu	Leu	Ser	Gln	Leu 1975	Thr	His	Gly	Ile	Lys 1980	Glu	Leu	Gly
Pro	Tyr 1985	Thr	Leu	Asp	Arg	Asn 1990		Leu	Tyr	Val	Asn 1995	Gly	Phe	Thr
His	Arg 2000	Ser	Ser	Val	Ala	Pro 2005		Ser	Thr	Pro	Gly 2010	Thr	Ser	Thr
Val	Asp 2015	Leu	Gly	Thr	Ser	Gly 2020	Thr	Pro	Ser	Ser	Leu 2025	Pro	Ser	Pro
Thr	Thr 2030	Ala	Val	Pro	Leu	Leu 2035	Val	Pro	Phe	Thr	Leu 2040	Asn	Phe	Thr
Ile	Thr 2045	Asn	Leu	Gln	Tyr	Gly 2050	Glu	Asp	Met	Arg	His 2055	Pro	Gly	Ser
Arg	Lys 2060	Phe	Asn	Thr	Thr	Glu 2065	Arg	Val	Leu	Gln	Gly 2070	Leu	Leu	Gly
Pro	Leu 2075	Phe	Lys	Asn	Ser	Ser 2080	Val	Gly	Pro	Leu	Tyr 2085	Ser	Gly	Cys
Arg	Leu 2090	Ile	Ser	Leu	Arg	Ser 2095	Glu	Lys	Asp	Gly	Ala 2100	Ala	Thr	Gly
Val	Asp 2105	Ala	Ile	Cys	Thr	His 2110	His	Leu	Asn	Pro	Gln 2115	Ser	Pro	Gly
Leu	Asp 2120	Arg	Glu	Gln	Leu	Tyr 2125	Trp	Gln	Leu	Ser	Gln 2130	Met	Thr	Asn
Gly	Ile 2135	Lys	Glu	Leu	Gly	Pro 2140	Tyr	Thr	Leu	Asp	Arg 2145	Asn	Ser	Leu
Tyr	Val 2150	Asn	Gly	Phe	Thr	His 2155	Arg	Ser	Ser	Gly	Leu 2160	Thr	Thr	Ser
Thr	Pro 2165	Trp	Thr	Ser	Thr	Val 2170	Asp	Leu	Gly	Thr	Ser 2175	Gly	Thr	Pro
Ser	Pro	Val	Pro	Ser	Pro	Thr	Thr	Ala	Gly	Pro	Leu	Leu	Val	Pro

	2180					2185					2190			
Phe	Thr 2195	Leu	Asn	Phe	Thr	Ile 2200		Asn	Leu	Gln	Tyr 2205		Glu	Asp
Met	His 2210	Arg	Pro	Gly	Ser	Arg 2215		Phe	Asn	Ala	Thr 2220		Arg	Val
Leu	Gln 2225	Gly	Leu	Leu	Ser	Pro 2230		Phe	Lys	Asn	Ser 2235		Val	Gly
Pro	Leu 2240		Ser	Gly	Суѕ	Arg 2245		Thr	Ser	Leu	Arg 2250		Glu	Lys
Asp	Gly 2255		Ala	Thr	Gly	Met 2260		Ala	Val	Cys	Leu 2265		His	Pro
Asn	Pro 2270		Arg	Pro	Gly	Leu 2275		Arg	Glu	Gln	Leu 2280		Trp	Glu
Leu	Ser 2285	Gln	Leu	Thr	His	Asn 2290		Thr	Glu	Leu	Gly 2295		Tyr	Ser
Leu	Asp 2300		Asp	Ser	Leu	Tyr 2305		Asn	Gly	Phe	Thr 2310	His	Gln	Ser
Ser	Met 2315		Thr	Thr	Arg	Thr 2320	Pro	Asp	Thr	Ser	Thr 2325	Met	His	Leu
Ala	Thr 2330	Ser	Arg	Thr	Pro	Ala 2335	Ser	Leu	Ser	Gly	Pro 2340	Thr	Thr	Ala
Ser	Pro 2345	Leu	Leu	Val	Leu	Phe 2350	Thr	Ile	Asn	Cys	Thr 2355	Ile	Thr	Asn
Leu	Gln 2360	Tyr	Glu	Glu	Asp	Met 2365	Arg	Arg	Thr	Gly	Ser 2370	Arg	Lys	Phe
Asn	Thr 2375	Met	Glu	Ser	Val	Leu 2380	Gln	Gly	Leu	Leu	Lys 2385	Pro	Leu	Phe
Lys	Asn 2390	Thr	Ser	Val	Gly	Pro 2395	Leu	Tyr	Ser	Gly	Cys 2400	Arg	Leu	Thr
Leu	Leu 2405	Arg	Pro	Lys	Lys	Asp 2410	Gly	Ala	Ala	Thr	Gly 2415	Val	Asp	Ala
Ile	Cys 2420	Thr	His	Arg	Leu	Asp 2425	Pro	Lys	Ser	Pro	Gly 2430	Leu	Asn	Arg
Glu	Gln 2435	Leu	Tyr	Trp	Glu	Leu 2440	Ser	Lys	Leu	Thr	Asn 2 44 5	Asp	Ile	Glu
Glu	Leu 2450	Gly	Pro	Tyr	Thr	Leu 2455	Asp	Arg	Asn	Ser	Leu 2460	Tyr	Val	Asn
Gly	Phe 2465	Thr	His	Gln	Ser	Ser 2470	Val	Ser	Thr	Thr	Ser 2475	Thr	Pro	Gly

Thr	Ser 2480	Thr	Val	Asp	Leu	Arg 2485	Thr	Ser	Gly	Thr	Pro 2490	Ser	Ser	Leu
Ser	Ser 2495	Pro	Thr	Ile	Met	Xaa 2500	Xaa	Xaa	Pro	Leu	Leu 2505	Xaa	Pro	Phe
Thr	Leu 2510	Asn	Phe	Thr	Ile	Thr 2515	Asn	Leu	Xaa	Tyr	Glu 2520	Glu	Xaa	Met
Xaa	Xaa 2525	Pro	Gly	Ser	Arg	Lys 2530	Phe	Asn	Thr	Thr	Glu 2535	Arg	Val	Leu
Gln	Gly 2540	Leu	Leu	Arg	Pro	Leu 2545		Lys	Asn	Thr	Ser 2550	Val	Ser	Ser
Leu	Tyr 2555	Ser	Gly	Cys	Arg	Leu 2560	Thr	Leu	Leu	Arg	Pro 2565	Glu	Lys	Asp
Gly	Ala 2570	Ala	Thr	Arg	Val	Asp 2575	Ala	Ala	Суз	Thr	Tyr 2580	Arg	Pro	Asp
Pro	Lys 2585	Ser	Pro	Gly	Leu	Asp 2590	Arg	Glu	Gln	Leu	Tyr 2595	Trp	Glu	Leu
Ser	Gln 2600	Leu	Thr	His	Ser	Ile 2605	Thr	Glu	Leu	Gly	Pro 2610	Tyr	Thr	Leu
Asp	Arg 2615	Val	Ser	Leu	Tyr	Val 2620	Asn	Gly	Phe	Asn	Pro 2625	Arg	Ser	Ser
Val	Pro 2630	Thr	Thr	Ser	Thr	Pro 2635	Gly	Thr	Ser	Thr	Val 2640	His	Leu	Ala
Thr	Ser 2645	Gly	Thr	Pro	Ser	Ser 2650	Leu	Pro	Gly	His	Thr 2655	Ala	Pro	Val
Pro	Leu 2660	Leu	Ile	Pro	Phe	Thr 2665	Leu	Asn	Phe	Thr	Ile 2670	Thr	Asn	Leu
His	Tyr 2675	Glu	Glu	Asn	Met	Gln 2680	His	Pro	Gly	Ser	Arg 2685	Lys	Phe	Asn
Thr	Thr 2690	Glu	Arg	Val	Leu	Gln 2695	Gly	Leu	Leu	Arg	Pro 2700	Leu	Phe	Lys
Ser	Thr 2705	Ser	Val	Gly	Pro	Leu 2710	Tyr	Ser	Gly	Суѕ	Arg 2715	Leu	Thr	Leu
Leu	Arg 2720	Pro	Glu	Lys	His	Gly 2725	Ala	Ala	Thr	Gly	Val 2730	Asp	Ala	Ile
Cys	Thr 2735	Leu	Arg	Leu	Asp	Pro 2740	Thr	Gly	Pro	Gly	Leu 2745	Asp	Arg	Glu
Arg	Leu 2750	Tyr	Trp	Glu	Leu	Ser 2755	Gln	Leu	Thr	Asn	Ser 2760	Val	Thr	Glu
Leu	Gly 2765	Pro	Tyr	Thr	Leu	Asp 2770	Arg	Asp	Ser	Leu	Tyr 2775	Val	Asn	Gly

Phe	Thr 2780		Arg	Ser	Ser	Val 2785		Thr	Thr	Ser	Ile 2790		Gly	Thr
Ser	Ala 2795		His	Leu	Glu	Thr 2800		Gly	Thr	Pro	Ala 2805		Leu	Pro
Gly	His 2810		Ala	Pro	Gly	Pro 2815		Leu	Val	Pro	Phe 2820		Leu	Asn
Phe	Thr 2825	Ile	Thr	Asn	Leu	Gln 2830		Glu	Val	Asp	Met 2835	_	His	Pro
Gly	Ser 2840	Arg	Lys	Phe	Asn	Thr 2845		Glu	Arg	Val	Leu 2850		Gly	Leu
Leu	Lys 2855	Pro	Leu	Phe	Lys	Ser 2860		Ser	Val	Gly	Pro 2865		Tyr	Ser
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Thr	Gly 2885	Val	Asp	Thr	Ile	Cys 2890		His	Arg	Leu	Asp 2895	Pro	Leu	Asn
Pro	Gly 2900	Leu	Asp	Arg	Glu	Gln 2905	Leu	Tyr	Trp	Glu	Leu 2910	Ser	Lys	Leu
Thr	Arg 2915	Gly	Ile	Ile	Glu	Leu 2920	Gly	Pro	Tyr	Leu	Leu 2925		Arg	Gly
Ser	Leu 2930	Tyr	Val	Asn	Gly	Phe 2935	Thr	His	Arg	Asn	Phe 2940	Val	Pro	Ile
Thr	Ser 2945	Thr	Pro	Gly		Ser 2950	Thr	Val	His	Leu	Gly 2955	Thr	Ser	Glu
Thr	Pro 2960	Ser	Ser	Leu	Pro	Arg 2965	Pro	Ile	Val	Pro	Gly 2970	Pro	Leu	Leu
Val	Pro 2975		Thr	Leu		Phe 2980		Ile	Thr		Leu 2985		Tyr	Glu
Glu	Ala 2990	Met	Arg	His	Pro	Gly 2995	Ser	Arg	Lys	Phe	Asn 3000	Thr	Thr	Glu
Arg	Val 3005	Leu	Gln	Gly	Leu	Leu 3010	Arg	Pro	Leu	Phe	Lys 3015	Asn	Thr	Ser
Ile	Gly 3020	Pro	Leu	Tyr	Ser	Ser 3025	Cys	Arg	Leu	Thr	Leu 3030	Leu	Arg	Pro
Glu	Lys 3035	Asp	Lys	Ala	Ala	Thr 3040	Arg	Val	Asp	Ala	Ile 3045	Cys	Thr	His
His	Pro 3050	Asp	Pro	Gln	Ser	Pro 3055	Gly	Leu	Asn	Arg	Glu 3060	Gln	Leu	Tyr
Trp	Glu	Leu	Ser	Gln	Leu	Thr	His	Gly	Ile	Thr	Glu	Leu	Gly	Pro

	3065					3070					3075			
Tyr	Thr 3080		Asp	Arg	Asp	Ser 3085		Tyr	Val	Asp	Gly 3090		Thr	His
Trp	Ser 3095		Ile	Pro	Thr	Thr 3100		Thr	Pro	Gly	Thr 3105		Ile	Val
Asn	Leu 3110		Thr	Ser	Gly	Ile 3115		Pro	Ser	Leu	Pro 3120		Thr	Thr
Xaa	Xaa 3125		Pro	Leu	Leu	Xaa 3130		Phe	Thr	Leu	Asn 3135		Thr	Ile
Thr	Asn 3140		Xaa	Tyr	Glu	Glu 3145		Met	Xaa	Xaa	Pro 3150		Ser	Arg
Lys	Phe 3155		Thr	Thr	Glu	Arg 3160		Leu	Gln	Gly	Leu 3165		Lys	Pro
Leu	Phe 3170	Arg	Asn	Ser	Ser	Leu 3175	Glu	Tyr	Leu	Tyr	Ser 3180		Cys	Arg
Leu	Ala 3185	Ser	Leu	Arg	Pro	Glu 3190		Asp	Ser	Ser	Ala 3195		Ala	Val
Asp	Ala 3200	Ile	Cys	Thr	His	Arg 3205	Pro	Asp	Pro	Glu	Asp 3210	Leu	Gly	Leu
Asp	Arg 3215	Glu	Arg	Leu	Tyr	Trp 3220	Glu	Leu	Ser	Asn	Leu 3225	Thr	Asn	Gly
Ile	Gln 3230	Glu	Leu	Gly	Pro	Tyr 3235	Thr	Leu	Asp	Arg	Asn 3240	Ser	Leu	Tyr
Val	Asn 3245	Gly	Phe	Thr	His	Arg 3250	Ser	Ser	Phe	Leu	Thr 3255	Thr	Ser	Thr
Pro	Trp 3260	Thr	Ser	Thr	Val	Asp 3265	Leu	Gly	Thr	Ser	Gly 3270	Thr	Pro	Ser
Pro	Val 3275	Pro	Ser	Pro	Thr	Thr 3280	Ala	Gly	Pro	Leu	Leu 3285	Val	Pro	Phe
Thr	Leu 3290	Asn	Phe	Thr	Ile	Thr 3295	Asn	Leu	Gln	Tyr	Glu 3300	Glu	Asp	Met
His	Arg 3305	Pro	Gly	Ser	Arg	Arg 3310	Phe	Asn	Thr	Thr	Glu 3315	Arg	Val	Leu
Gln	Gly 3320	Leu	Leu	Thr	Pro	Leu 3325	Phe	Lys	Asn	Thr	Ser 3330	Val	Gly	Pro
Leu	Tyr 3335	Ser	Gly	Cys	Arg	Leu 3340	Thr	Leu	Leu	Arg	Pro 3345	Glu	Lys	Gln
Glu	Ala 3350	Ala	Thr	Gly	Val	Asp 3355	Thr	Ile	Cys	Thr	His 3360	Arg	Val	Asp

Pro	Ile 3365	Gly	Pro	Gly	Leu	Asp 3370	Arg	Glu	Arg	Leu	Tyr 3375	Trp	Glu	Leu
Ser	Gln 3380	Leu	Thr	Asn	Ser	Ile 3385	Thr	Glu	Leu	Gly	Pro 3390	Tyr	Thr	Leu
Asp	Arg 3395	Asp	Ser	Leu	Tyr	Val 3400	Asn	Gly	Phe	Asn	Pro 3405	Trp	Ser	Ser
Val	Pro 3410	Thr	Thr	Ser	Thr	Pro 3415		Thr	Ser	Thr	Val 3420	His	Leu	Ala
Thr	Ser 3425	Gly	Thr	Pro	Ser	Ser 3430	Leu	Pro	Gly	His	Thr 3435	Ala	Pro	Val
Pro	Leu 3440	Leu	Ile	Pro	Phe	Thr 3445	Leu	Asn	Phe	Thr	Ile 3450	Thr	Asp	Leu
His	Tyr 3455	Glu	Glu	Asn	Met	Gln 3460	His	Pro	Gly	Ser	Arg 3465	Lys	Phe	Asn
Thr	Thr 3470	Glu	Arg	Val	Leu	Gln 3475	Gly	Leu	Leu	Lys	Pro 3480	Leu	Phe	Lys
Ser	Thr 3485	Ser	Val	Gly	Pro	Leu 3490	Tyr	Ser	Gly	Cys	Arg 3495	Leu	Thr	Leu
Leu	Arg 3500	Pro	Glu	Lys	His	Gly 3505	Ala	Ala	Thr	Gly	Val 3510	Asp	Ala	Ile
Cys	Thr 3515	Leu	Arg	Leu	Asp	Pro 3520	Thr	Gly	Pro	Gly	Leu 3525	Asp	Arg	Glu
Arg	Leu 3530	Tyr	Trp	Glu	Leu	Ser 3535	Gln	Leu	Thr	Asn	Ser 3540	Val	Thr	Glu
Leu	Gly 3545	Pro	Tyr	Thr	Leu	Asp 3550	Arg	Asp	Ser	Leu	Tyr 3555	Val	Asn	Gly
Phe	Thr 3560					Val 3565					Ile 3570		Gly	Thr
Ser	Ala 3575		His	Leu	Glu	Thr 3580	Ser	Gly	Thr	Pro	Ala 3585		Leu	Pro
Gly	His 3590	Thr	Ala	Pro	Gly	Pro 3595	Leu	Leu	Val	Pro	Phe 3600	Thr	Leu	Asn
Phe	Thr 3605	Ile	Thr	Asn	Leu	Gln 3610	Tyr	Glu	Glu	Asp	Met 3615	Arg	His	Pro
Gly	Ser 3620		Lys	Phe	Ser	Thr 3625		Glu	Arg	Val	Leu 3630		Gly	Leu
Leu	Lys 3635		Leu	Phe	Lys	Asn 3640	Thr	Ser	Val	Ser	Ser 3645	Leu	Tyr	Ser
Gly	Cys 3650		Leu	Thr	Leu	Leu 3655	Arg	Pro	Glu	Lys	Asp 3660	Gly	Ala	Ala

Thr	Arg 3665	Val	Asp	Ala	Val	Cys 3670	Thr	His	Arg	Pro	Asp 3675	Pro	Lys	Ser
Pro	Gly 3680	Leu	Asp	Arg	Glu	Arg 3685	Leu	Tyr	Trp	Lys	Leu 3690	Ser	Gln	Leu
Thr	His 3695	Gly	Ile	Thr	Glu	Leu 3700		Pro	Tyr	Thr	Leu 3705	Asp	Arg	His
Ser	Leu 3710	Tyr	Val	Asn	Gly	Phe 3715	Thr	His	Gln	Ser	Ser 3720	Met	Thr	Thr
Thr	Arg 3725	Thr	Pro	Asp	Thr	Ser 3730	Thr	Met	His	Leu	Ala 3735	Thr	Ser	Arg
Thr	Pro 3740	Ala	Ser	Leu	Ser	Gly 3745		Thr	Thr	Ala	Ser 3750		Leu	Leu
Val	Leu 3755	Phe	Thr	Ile	Asn	Phe 3760	Thr	Ile	Thr	Asn	Gln 3765	Arg	Tyr	Glu
Glu	Asn 3770	Met	His	His	Pro	Gly 3775		Arg	Lys	Phe	Asn 3780	Thr	Thr	Glu
Arg	Val 3785		Gln	Gly	Leu	Leu 3790		Pro	Val	Phe	Lys 3795	Asn	Thr	Ser
Val	Gly 3800		Leu	Tyr	Ser	Gly 3805		Arg	Leu	Thr	Leu 3810	Leu	Arg	Pro
Lys	Lys 3815		Gly	Ala	Ala	Thr 3820		Val	Asp	Ala	Ile 3825	Cys	Thr	Tyr
Arg	Pro 3830		Pro	Lys	Ser	Pro 3835		Leu	Asp	Arg	Glu 3840		Leu	Tyr
Trp	Glu 3845		Ser	Gln	Leu	Thr 3850		Ser	Ile	Thr	Glu 3855	Leu	Gly	Pro
Tyr	Thr 3860			Arg		3865		Tyr	Val	Asn	Gly 3870	Phe	Thr	His
Arg	Ser 3875		Val	Pro	Thr	Thr 3880		Ile	Pro	Gly	Thr 3885		Ala	Val
His	Leu 3890		Thr	Ser	Gly	Thr 3895		Ala	Ser	Leu	Pro 3900		His	Thr
Ala	Pro 3905		Pro	Leu	Leu	Val 3910		Phe	Thr	Leu	Asn 3915		Thr	Ile
Thr	Asn 3920		Gln	Tyr	Glu	Glu 3925		Met	Arg	His	Pro 3930		Ser	Arg
Lys	Phe 3935		Thr	Thr	Glu	Arg 3940		Leu	Gln	Gly	Leu 3945		Lys	Pro
Leu	Phe	Lys	Ser	Thr	Ser	Val	Gly	Pro	Leu	Tyr	Ser	Gly	Cys	Arg

3	950					3955					3960			
Leu T	hr 965	Leu	Leu i	Arg :	Pro	Glu 3970	Lys	Arg	Gly	Ala	Ala 3975	Thr	Gly	Val
Asp T	hr 1980	Ile	Cys	Thr	His	Arg 3985	Leu	Asp	Pro	Leu	Asn 3990	Pro	Gly	Leu
	Arg 8995	Glu	Gln	Leu	Tyr	Trp 4000	Glu	Leu	Ser	Lys	Leu 4005	Thr	Arg	Gly
	[le 1010	Glu	Leu	Gly	Pro	Tyr 4015	Leu	Leu	Asp	Arg	Gly 4020	Ser	Leu	Tyr
	Asn 4025	Gly	Phe	Thr	His	Arg 4030	Thr	Ser	Val	Pro	Thr 4035	Thr	Ser	Thr
	Gly 4040		Ser	Thr	Val	Asp 4045	Leu	Gly	Thr	Ser	Gly 4050	Thr	Pro	Phe
	Leu 4055		Ser	Pro	Ala	Xaa 4060	Xaa	Xaa	Pro	Leu	Leu 4065	Xaa	Pro	Phe
	Leu 4070		Phe	Thr	Ile	Thr 4075	Asn	Leu	Xaa	Tyr	Glu 4080	Glu	Xaa	Met
	Xaa 4085		Gly	Ser	Arg	Lys 4090	Phe	Asn	Thr	Thr	Glu 4095	Arg	Val	Leu
Gln	Thr 4100		Leu	Gly	Pro	Met 4105	Phe	Lys	: Asn	Thr	Ser 4110	Val	Gly	Leu
Leu	Tyr 4115		Gly	Cys	Arg	Leu 4120	Thr	Leu	ı Lev	Arç	Ser 4125	Glu	Lys	: Asp
Gly	Ala 4130		a Thr	Gly	Val	Asp 4135	Ala 5	ı Ile	e Cys	Thi	His 4140	Arg	g Leu	ı Asp
Pro	Lys 4145		r Pro	Gly	v Val	L Asp 415	Arg O	g Glu	ı Glr	ı Lei	a Tyr 415	Trp 5	o Glu	ı Leu
Ser	Gln 416		ı Thr	: Asr	ı Gl	y Ile 416	Ly: 5	s Glı	u Lei	ı Gl	y Pro 417	Ту:	r Thi	r Leu
Asp	Arg 417		n Sei	c Lev	ту:	r Val 418	As:	n Gl	y Ph	e Th	r His 418	Tr _] 5	p Ile	e Pro
Val	Pro 419		r Se:	r Sei	r Th	r Pro 419	G1 5	y Th	r Se	r Th	r Val 420	As 0	p Le	u Gly
Ser	Gly 420		r Pr	o Se	r Le	u Pro 421	Se .0	r Se	r Pr	o Th	r Thr 421	Al 5	a Gl	y Pro
Leu	Leu 422		l Pr	o Ph	e Th	r Leu 422	a As	n Ph	e Th	r Il	e Thr. 423	As 30	n Le	u Lys
Tyr	Glu 423		u As	p Me	t Hi	s Cys 424	s Pr 10	o Gl	y Se	er Ar	g Lys 424	s Ph 15	ie As	n Thr

Thr Glu Arg Val Leu Gln Ser Leu Leu Gly Pro Met Phe Lys Asn 4250 4255
Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 4275 4265
Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys 4280 4285
Thr His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln 4305
Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu 4310 4310
Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe 4335 4325
Thr His Gln Thr Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser 4340 4345
Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser 4365 4355
Pro Thr Xaa Xaa Xaa Pro Leu Leu Xaa Pro Phe Thr Leu Asn Phe 4370 4375
Thr Ile Thr Asn Leu Xaa Tyr Glu Glu Xaa Met Xaa Xaa Pro Gly 4395 4385
Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu 4400 4400
Xaa Pro Xaa Phe Lys Xaa Thr Ser Val Gly Xaa Leu Tyr Ser Gly 4425 4415
Cys Arg Leu Thr Leu Leu Arg Xaa Glu Lys Xaa Xaa Ala Ala Thr 4440 4430
Xaa Val Asp Xaa Xaa Cys Xaa Xaa Xaa Xaa Asp Pro Xaa Xaa Pro 4455 4445
Gly Leu Asp Arg Glu Xaa Leu Tyr Trp Glu Leu Ser Xaa Leu Thr 4460 4465
Xaa Xaa Ile Xaa Glu Leu Gly Pro Tyr Xaa Leu Asp Arg Xaa Ser 4475 4480
Leu Tyr Val Asn Gly Phe Thr His Trp Ile Pro Val Pro Thr Ser 4490 4495
Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro 4515 4505
Ser Ser Leu Pro Ser Pro Thr Thr Ala Gly Pro Leu Leu Val Pro 4520 4525
Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp 4545 4535

Met	His 4550	Cys	Pro	Gly	Ser	Arg 4555	Lys	Phe	Asn	Thr	Thr 4560	Glu	Arg	Val
Leu	Gln 4565	Ser	Leu	Leu	Gly	Pro 4570	Met	Phe	Lys	Asn	Thr 4575	Ser	Val	Gly
Pro	Leu 4580	Tyr	Ser	Gly	Cys	Arg 4585		Thr	Ser	Leu	Arg 4590	Ser	Glu	Lys
Asp	Gly 4595	Ala	Ala	Thr	Gly	Val 4600	Asp	Ala	Ile	Cys	Thr 4605	His	Arg	Val
Asp	Pro 4610		Ser	Pro		Val 4615	Asp	Arg	Glu	Gln	Leu 4620	Tyr	Trp	Glu
Leu	Ser 4625	Gln	Leu	Thr	Asn	Gly 4630		Lys	Glu	Leu	Gly 4635		Tyr	Thr
Leu	Asp 4640	Arg	Asn	Ser	Leu	Tyr 4645	Val	Asn	Gly	Phe	Thr 4650	His	Gln	Thr
Ser	Ala 4655	Pro	Asn			Thr 4660		Gly	Thr	Ser	Thr 4665	Val	Asp	Leu
Gly	Thr 4670	Ser	Gly	Thr	Pro	Ser 4675	Ser	Leu	Pro	Ser	Pro 4680		Ser	Ala
Gly	Pro 4685	Leu	Leu	Val	Pro	Phe 4690		Leu	Asn	Phe	Thr 4695	Ile	Thr	Asn
Leu	Gln 4700	_	Glu	Glu	Asp	Met 4705		His	Pro	Gly	Ser 4710	Arg	Lys	Phe
Asn	Thr 4715	Thr	Glu	Arg	Val	Leu 4720		Gly	Leu	Leu	Gly 4725	Pro	Met	Phe
Lys	Asn 4730		Ser	Val	Gly	Leu 4735		Tyr	Ser	Gly	Cys 4740		Leu	Thr
Leu	Leu 4745	_	Pro	Glu	Lys	Asn 4750		Ala	Ala	Thr	Gly 4755		Asp	Ala
Ile	Cys 4760		His	Arg	Leu	Asp 4765		Lys	Ser	Pro	Gly 4770		Asp	Arg
Glu	Xaa 4775		Tyr	Trp	Glu	Leu 4780		Xaa	Leu	Thr	Xaa 4785		Ile	Xaa
Glu	Leu 4790	_	Pro	Tyr	Xaa	Leu 4795		Arg	Xaa	Ser	Leu 4800		Val	Asn
Gly	Phe 4805		Xaa	Xaa	Xaa	Xaa 4810		Xaa	Xaa	Thr	Ser 4815		Pro	Gly
Thr	Ser 4820		Val	Xaa	Leu	Xaa 4825		Ser	Gly	Thr	Pro 4830		Xaa	Xaa
Pro	Xaa	Xaa	Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe	Thr	Leu

4	4835					4840					4845			
	Phe 4850	Thr	Ile '	Thr	Asn	Leu 4855	Xaa	Tyr	Glu	Glu	Xaa 4860	Met	Xaa	Xaa
Pro (Gly 4865	Ser	Arg	Lys	Phe	Asn 4870	Thr	Thr	Glu	Arg	Val 4875	Leu	Gln	Gly
	Leu 4880	Lys	Pro	Leu	Phe	Arg 4885	Asn	Ser	Ser	Leu	Glu 4890	Tyr	Leu	Tyr
	Gly 4895	Cys	Arg	Leu	Ala	Ser 4900	Leu	Arg	Pro	Glu	Lys 4905	Asp	Ser	Ser
	Met 4910	Ala	Val	Asp	Ala	Ile 4915	Cys	Thr	His	Arg	Pro 4920	Asp	Pro	Glu
	Leu 4925	Gly	Leu	Asp	Arg	Glu 4930	Arg	Leu	Tyr	Trp	Glu 4935	Leu	Ser	Asn
Leu	Thr 4940	Asn	Gly	Ile	Gln	Glu 4945	Leu	Gly	Pro	Tyr	Thr 4950	Leu	Asp	Arg
Asn	Ser 4955	Leu	Tyr	Val	Asn	Gly 4960	Phe	Thr	His	Arg	Ser 4965	Ser	Met	Pro
Thr	Thr 4970		Thr	Pro	Gly	Thr 4975	Ser	Thr	Val	Asp	Val 4980	Gly	Thr	Ser
Gly	Thr 4985		Ser	Ser	Ser	Pro 4990	Ser	Pro	Thr	Thr	Ala 4995	Gly	Pro	Leu
Leu	Ile 5000		Phe	Thr	Leu	Asn 5005	Phe	Thr	Ile	Thr	Asn 5010	Leu	Gln	Tyr
Gly	Glu 5015	Asp	Met	Gly	His	Pro 5020	Gly	Ser	Arg	Lys	Phe 5025	Asn	Thr	Thr
Glu	Arg 5030	Val	Leu	Gln	Gly	Leu 5035	Leu	ı Gly	Pro	Ile	Phe 5040	Lys)	s Asr	n Thr
Ser	Val 5045		, Pro	Leu	туг	Ser 5050	Gl _y	y Cys	arç	, Leu	Thr 5055	Ser	. Le	ı Arg
Ser	Glu 5060		s Asp	Gly	/ Ala	Ala 506	Thi 5	c Gly	y Val	. Asp	5070	Ile	э Су:	s Ile
His	His 5075		ı Asp	Pro	b Lys	s Ser 508	Pro	o Gl	y Lev	ı Asr	Arg 5085	Glu 5	ı Ar	g Leu
Tyr	Trp 509		ı Lev	ı Sei	r Gli	n Leu 509	Th: 5	r Ası	n Gly	y Ile	E Lys 510	Gl: O	u Le	u Gly
Pro	Tyr 510		r Lei	וAS ג	o Ar	g Asn 511	Se 0	r Le	u Ty:	r Va	1 Asn 511	G1; 5	y Ph	e Thr
His	s Arg 512		r Se:	r Va	l Pr	o Thr 512	Th:	r Se	r Th	r Pr	o Gly 513	Th O	r Se	r Thr

Val	Asp 5135	Leu	Gly	Thr	Ser	Gly 5140		Pro	Phe	Ser	Leu 5145	Pro	Ser	Pro
Ala	Thr 5150	Ala	Gly	Pro	Leu	Leu 5155	Val	Leu	Phe	Thr	Leu 5160	Asn	Phe	Thr
Ile	Thr 5165	Asn	Leu	Lys	Tyr	Glu 5170		Asp	Met	His	Arg 5175	Pro	Gly	Ser
Arg	Lys 5180	Phe	Asn	Thr	Thr	Glu 5185	Arg	Val	Leu	Gln	Thr 5190	Leu	Leu	Gly
Pro	Met 5195	Phe	Lys	Asn	Thr	Ser 5200	Val	Gly	Leu	Leu	Tyr 5205	Ser	Gly	Суѕ
Arg	Leu 5210	Thr	Leu	Leu	Arg	Ser 5215	Glu	Lys	_	Gly		Ala	Thr	Gly
Val	Asp 5225	Ala	Ile	Cys	Thr	His 5230	Arg	Leu	Asp	Pro	Lys 5235	Ser	Pro	Gly
Leu	Asp 5240	Arg	Glu	Xaa	Leu	Tyr 5245	Trp	Glu	Leu	Ser	Xaa 5250	Leu	Thr	Xaa
Xaa	Ile 5255	Xaa	Glu	Leu	Gly	Pro 5260	Tyr	Xaa	Leu	Asp	Arg 5265	Xaa	Ser	Leu
Tyr	Val 5270	Asn	Gly	Phe	Xaa	Xaa 5275	Xaa	Xaa	Xaa	Xaa	Xaa 5280	Xaa	Thr	Ser
Thr	Pro 5285	Gly	Thr	Ser	Xaa	Val 5290	Xaa	Leu	Xaa	Thr	Ser 5295	Gly	Thr	Pro
Xaa	Xaa 5300	Xaa	Pro	Xaa	Xaa	Thr 5305	Xaa	Xaa	Xaa	Pro	Leu 5310	Leu	Xaa	Pro
Phe	Thr 5315	Leu	Asn			Ile 5320		Asn	Leu	Xaa	Tyr 5325	Glu	Glu	Xaa
Met	Xaa 5330	Xaa	Pro	Gly	Ser	Arg 5335	Lys	Phe	Asn	Thr	Thr 5340	Glu	Arg	Val
Leu	Gln 5345	Gly	Leu	Leu	Arg	Pro 5350	Val	Phe	Lys	Asn	Thr 5355	Ser	Val	Gly
Pro	Leu 5360	Tyr	Ser	Gly	Cys	Arg 5365	Leu	Thr	Leu	Leu	Arg 5370	Pro	Lys	Lys
Asp	Gly 5375	Ala	Ala	Thr	Lys	Val 5380	Asp	Ala	Ile	Cys	Thr 5385	Tyr	Arg	Pro
Asp	Pro 5390	Lys	Ser	Pro	Gly	Leu 5395	Asp	Arg	Glu	Gln	Leu 5400	Tyr	Trp	Glu
Leu	Ser 5405	Gln	Leu	Thr	His	Ser 5410	Ile	Thr	Glu	Leu	Gly 5415	Pro	Tyr	Thr
Gln	Asp 5420	Arg	Asp	Ser	Leu	Tyr 5425	Val	Asn	Gly	Phe	Thr 5430	His	Arg	Ser

Ser	Val 5435	Pro	Thr	Thr	Ser	Ile 5440	Pro	Gly	Thr	Ser	Ala 5445	Val	His	Leu
Glu	Thr 5450	Thr	Gly	Thr	Pro	Ser 5455	Ser	Phe	Pro	Gly	His 5460	Thr	Glu	Pro
Gly	Pro 5465	Leu	Leu	Ile	Pro	Phe 5470	Thr	Phe	Asn	Phe	Thr 5475	Ile	Thr	Asn
Leu	Arg 5480	Tyr	Glu	Glu	Asn	Met 5485	Gln	His	Pro	Gly	Ser 5490	Arg	Lys	Phe
Asn	Thr 5495	Thr	Glu	Arg	Val	Leu 5500	Gln	Gly	Leu		Thr 5505	Pro	Leu	Phe
Lys	Asn 5510	Thr	Ser	Val	Gly	Pro 5515	Leu	Tyr	Ser	Gly	Cys 5520	Arg	Leu	Thr
Leu	Leu 5525	Arg	Pro	Glu	Lys	Gln 5530	Glu	Ala	Ala	Thr	Gly 5535	Val	Asp	Thr
Ile	Cys 5540	Thr	His	Arg	Val	Asp 5545	Pro	Ile	Gly	Pro	Gly 5550	Leu	Asp	Arg
Glu	Arg 5555	Leu	Tyr	Trp	Glu	Leu 5560	Ser	Gln	Leu	Thr	Asn 5565	Ser	Ile	Thr
Glu	Leu 5570	Gly	Pro	Tyr	Thr	Leu 5575	Asp	Arg	Asp	Ser	Leu 5580	Tyr	Val	Asp
Gly	Phe 5585	Asn	Pro	Trp	Ser	Ser 5590	Val	Pro	Thr		Ser 5595	Thr	Pro	Gly
Thr	Ser 5600	Thr	Val	His	Leu	Ala 5605	Thr	Ser	Gly	Thr	Pro 5610	Ser	Pro	Leu
Pro	Gly 5615	His	Thr	Ala	Pro	Val 5620	Pro	Leu	Leu	Ile	Pro 5625	Phe	Thr	Leu
Asn	Phe 5630		Ile	Thr	Asp	Leu 5635				Glu	Asn 5640	Met	Gln	His
Pro	Gly 5645	Ser	Arg	Lys	Phe	Asn 5650	Thr	Thr	Glu	Arg	Val 5655	Leu	Gln	Gly
Leu	Leu 5660		Pro	Leu	Phe	Lys 5665	Ser	Thr	Ser	Val	Gly 5670	Pro	Leu	Tyr
Ser	Gly 5675	Cys	Arg	Leu	Thr	Leu 5680	Leu	Arg	Pro	Glu	Lys 5685	His	Gly	Ala
Ala	Thr 5690	Gly	Val	Asp	Ala	Ile 5695	Cys	Thr	Leu	Arg	Leu 5700	Asp	Pro	Thr
Gly	Pro 5705	Gly	Leu	Asp	Arg	Glu 5710	Arg	Leu	Tyr	Trp	Glu 5715	Leu	Ser	Gln
Leu	Thr	Asn	Ser	Ile	Thr	Glu	Leu	Gly	Pro	Tyr	Thr	Leu	Asp	Arg

	5720					5725					5730			
	Ser 5735	Leu	Tyr	Val	Asn	Gly 5740	Phe	Asn	Pro	Trp	Ser 5745	Ser	Val	Pro
	Thr 5750	Ser	Thr	Pro	Gly	Thr 5755	Ser	Thr	Val	His	Leu 5760	Ala	Thr	Ser
	Thr 5765	Pro	Ser	Ser	Leu	Pro 5770	Gly	His	Thr	Thr	Ala 5775	Gly	Pro	Leu
Leu	Val 5780	Pro	Phe	Thr	Leu	Asn 5785	Phe	Thr	Ile	Thr	Asn 5790	Leu	Lys	Tyr
Glu	Glu 5795	Asp	Met	His	Cys	Pro 5800	Gly	Ser	Arg	Lys	Phe 5805	Asn	Thr	Thr
Glu	Arg 5810	Val	Leu	Gln	Ser	Leu 5815	His	Gly	Pro	Met	Phe 5820	Lys	Asn	Thr
Ser	Val 5825	Gly	Pro	Leu	Tyr	Ser 5830	Gly	Cys	Arg	Leu	Thr 5835	Leu	Leu	Arg
Ser	Glu 5840	Lys	Asp	Gly	Ala	Ala 5845	Thr	Gly	Val	Asp	Ala 5850	Ile	Cys	Thr
His	Arg 5855		Asp	Pro	Lys	Ser 5860	Pro	Gly	Leu	Asp	Arg 5865	Glu	Xaa	Leu
Tyr	Trp 5870		Leu	Ser	Xaa	Leu 5875	Thr	Xaa	Xaa	Ile	Xaa 5880	Glu	Leu	Gly
Pro	Tyr 5885		Leu	Asp	Arg	Xaa 5890	Ser	Leu	Tyr	Val	Asn 5895	Gly	Phe	Xaa
Xaa	Xaa 5900		Xaa	Xaa	Xaa	Xaa 5905	Thr	Ser	Thr	Pro	Gly 5910	Thr	Ser	Xaa
Val	Xaa 5915		Xaa	Thr	Ser	Gly 5920	Thr	Pro	Xaa	Xaa	Xaa 5925	Pro	Xaa	Xaa
Thr	Xaa 5930		Xaa	Pro	Leu	Leu 5935	Xaa	Pro	Phe	Thr	Leu 5940	Asn	Phe	Thr
Ile	Thr 5945		Leu	Xaa	Tyr	Glu 5950		. Xaa	Met	Xaa	Xaa 5955	Pro	Gly	Ser
Arg	Lys 5960		Asn	Thr	Thr	Glu 5965		, Val	. Leu	Gln	Gly 5970	Leu	ı Leu	Xaa
Pro	Xaa 5975		. Lys	: Xaa	Thr	Ser 5980	Val	. Gly	/ Xaa	Leu	Tyr 5985	Ser	Gly	Cys
Arg	Leu 5990		Leu	ı Leı	ı Arç	y Xaa 5995		ı Lys	: Xaa	хаа	Ala 6000	Ala	a Thr	Xaa
Val	. Asp		a Xaa	а Суз	s Xaa	Xaa 6010	Xaa	a Xaa	a Asp	Pro	Xaa 6015	Xaa	a Pro	Gly

Leu	Asp 6020	Arg	Glu	Xaa	Leu	Tyr 6025	Trp	Glu	Leu	Ser	Xaa 6030	Leu	Thr	Asn
Ser		Thr	Glu	Leu	Gly	Pro 6040	Tyr	Thr	Leu	Asp	Arg 6045	Asp	Ser	Leu
Tyr		Asn	Gly	Phe	Thr	His 6055	Arg	Ser	Ser	Met	Pro 6060	Thr	Thr	Ser
Ile		Gly	Thr	Ser	Ala	Val 6070	His	Leu	Glu	Thr	Ser 6075	Gly	Thr	Pro
Ala	Ser 6080	Leu	Pro	Gly	His	Thr 6085	Ala	Pro	Gly	Pro	Leu 6090	Leu	Val	Pro
Phe	Thr 6095		Asn	Phe	Thr	Ile 6100	Thr	Asn	Leu	Gln	Tyr 6105	Glu	Glu	Asp
Met	Arg 6110		Pro	Gly	Ser	Arg 6115	Lys	Phe	Asn	Thr	Thr 6120	Glu	Arg	Val
Leu	Gln 6125		Leu	Leu	Lys	Pro 6130	Leu	Phe	Lys	Ser	Thr 6135	Ser	Val	Gly
Pro	Leu 6140		Ser	Gly	Cys	Arg 6145		Thr	Leu	Leu	Arg 6150	Pro	Glu	Lys
Arg	Gly 6155		Ala	Thr	Gly	Val 6160		Thr	Ile	Cys	Thr 6165	His	Arg	Leu
Asp	Pro 6170		Asn	Pro	Gly	Leu 6175		Arg	Glu	Xaa	Leu 6180	Tyr	Trp	Glu
Leu	Ser 6185		Leu	Thr		Xaa 6190		Xaa	Glu	Leu	Gly 6195	Pro	Tyr	Xaa
Leu	Asp 6200		Xaa	Ser	Leu	Tyr 6205		Asn	Gly	Phe	Xaa 6210	Xaa	Xaa	Xaa
	Xaa 6215		Xaa	Thr	Ser	Thr 6220	Pro	Gly	Thr	Ser	Xaa 6225	Val	Xaa	Leu
Xaa	Thr 6230		Gly	Thr	Pro	Xaa 6235		Xaa	Pro	Xaa	Xaa 6240	Thr	Xaa	Xaa
Xaa	Pro 6245		Leu	. Xaa	Pro	Phe 6250		Leu	Asn	Phe	Thr 6255		Thr	Asn
Leu	Xaa 6260		Glu	Glu	Xaa	Met 6265		Xaa	Pro	Gly	Ser 6270	Arg	Lys	Phe
Asn	Thr 6275		Glu	ı Arg	Val	Leu 6280		Gly	Leu	Leu	Xaa 6285	Pro	Xaa	Phe
Lys	Xaa 6290		Ser	Val	Gly	Xaa 6295		Tyr	Ser	Gly	Cys 6300	Arg	Leu	Thr
Leu	Leu 6305		g Xaa	a Glu	Lys	Xaa 6310		Ala	Ala	Thr	Xaa 6315	Val	Asp	Xaa

Xaa	Cys 6320	Xaa	Xaa	Xaa	Xaa	Asp 6325	Pro	Xaa	Xaa	Pro	Gly 6330	Leu	Asp	Arg
Glu	Xaa 6335	Leu	Tyr	Trp	Glu	Leu 6340	Ser	Xaa	Leu	Thr	Xaa 6345	Xaa	Ile	Xaa
Glu	Leu 6350	Gly	Pro	Tyr	Xaa	Leu 6355	Asp	Arg	Xaa	Ser	Leu 6360	Tyr	Val	Asn
Gly	Phe 6365	His	Pro	Arg	Ser	Ser 6370		Pro	Thr	Thr	Ser 6375		Pro	Gly
Thr	Ser 6380	Thr	Val	His	Leu	Ala 6385	Thr	Ser	Gly	Thr	Pro 6390	Ser	Ser	Leu
Pro	Gly 6395	His	Thr	Ala		Val 6400		Leu	Leu	Ile	Pro 6405	Phe	Thr	Leu
Asn	Phe 6410	Thr	Ile	Thr	Asn	Leu 6415	His	Tyr	Glu	Glu	Asn 6420	Met	Gln	His
Pro	Gly 6425	Ser	Arg	Lys	Phe	Asn 6430	Thr	Thr	Glu	Arg	Val 6435	Leu	Gln	Gly
Leu	Leu 6440	Gly	Pro	Met		Lys 6445	Asn	Thr	Ser	Val	Gly 6450	Leu	Leu	Tyr
Ser	Gly 6455	Суѕ	Arg	Leu	Thr	Leu 6460	Leu	Arg	Pro	Glu	Lys 6465	Asn	Gly	Ala
Ala	Thr 6470	Gly	Met	Asp	Ala	Ile 6475	Cys	Ser	His	Arg	Leu 6480	Asp	Pro	Lys
Ser	Pro 6485	Gly	Leu	Asp	Arg	Glu 6490	Xaa	Leu	Tyr	Trp	Glu 6495	Leu	Ser	Xaa
Leu	Thr 6500	Xaa	Xaa	Ile	Xaa	Glu 6505	Leu	Gly	Pro	Tyr	Xaa 6510	Leu	Asp	Arg
Xaa	Ser 6515	Leu	Tyr	Val	Asn	Gly 6520	Phe	Xaa	Xaa	Xaa	Xaa 6525	Xaa	Xaa	Xaa
Xaa	Thr 6530	Ser	Thr	Pro	Gly	Thr 6535	Ser	Xaa	Val	Xaa	Leu 6540	Xaa	Thr	Ser
Gly	Thr 6545	Pro	Xaa	Xaa	Xaa	Pro 6550	Xaa	Xaa	Thr	Xaa	Xaa 6555	Xaa	Pro	Leu
Leu	Xaa 6560	Pro	Phe	Thr	Leu	Asn 6565	Phe	Thr	Ile	Thr	Asn 6570	Leu	Xaa	Tyr
Glu	Glu 6575	Xaa	Met	Xaa	Xaa	Pro 6580	Gly	Ser	Arg	Lys	Phe 6585	Asn	Thr	Thr
Glu	Arg 6590	Val	Leu	Gln	Gly	Leu 6595	Leu	Xaa	Pro	Xaa	Phe 6600	Lys	Xaa	Thr
Ser	Val	Gly	Xaa	Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg

	6605					6610					6615			
Xaa	Glu 6620		Xaa	Xaa	Ala	Ala 6625		Xaa	Val	Asp	Xaa 6630		Cys	Xaa
Xaa	Xaa 6635		Asp	Pro	Xaa	Xaa 6640		Gly	Leu	Asp	Arg 6645		Xaa	Leu
Tyr	Trp 6650		Leu	Ser	Xaa	Leu 6655		Xaa	Xaa	Ile	Xaa 6660		Leu	Gly
Pro	Tyr 6665		Leu	Asp	Arg	Xaa 6670		Leu	Tyr	Val	Asn 6675	_	Phe	Thr
His	Gln 6680		Ser	Val	Pro	Thr 6685		Ser	Thr	Pro	Gly 6690		Ser	Thr
Val	Tyr 6695		Ala	Thr	Thr	Gly 6700		Pro	Ser	Ser	Phe 6705		Gly	His
Thr	Glu 6710	Pro	Gly	Pro	Leu	Leu 6715		Pro	Phe	Thr	Phe 6720	Asn	Phe	Thr
Ile	Thr 6725	Asn	Leu	His	Tyr	Glu 6730	Glu	Asn	Met	Gln	His 6735	Pro	Gly	Ser
Arg	Lys 6740	Phe	Asn	Thr	Thr	Glu 6745	Arg	Val	Leu	Gln	Gly 6750	Leu	Leu	Thr
Pro	Leu 6755	Phe	Lys	Asn	Thr	Ser 6760	Val	Gly	Pro	Leu	Tyr 6765	Ser	Gly	Cys
Arg	Leu 6770	Thr	Leu	Leu	Arg	Pro 6775	Glu	Lys	Gln	Glu	Ala 6780	Ala	Thr	Gly
Val	Asp 6785	Thr	Ile	Cys	Thr	His 6790	Arg	Val	Asp	Pro	Ile 6795	Gly	Pro	Gly
Leu	Asp 6800	Arg	Glu	Xaa	Leu	Tyr 6805	Trp	Glu	Leu	Ser	Xaa 6810	Leu	Thr	Xaa
Xaa	Ile 6815	Xaa	Glu	Leu	Gly	Pro 6820	Tyr	Xaa	Leu	Asp	Arg 6825	Xaa	Ser	Leu
Tyr	Val 6830	Asn	Gly	Phe	Xaa	Xaa 6835	Xaa	Xaa	Xaa	Xaa	Xaa 6840	Xaa	Thr	Ser
Thr	Pro 6845	Gly	Thr	Ser	Xaa	Val 6850	Xaa	Leu	Xaa	Thr	Ser 6855	Gly	Thr	Pro
Xaa	Xaa 6860	Xaa	Pro	Xaa	Xaa	Thr 6865	Xaa	Xaa	Xaa	Pro	Leu 6870	Leu	Xaa	Pro
Phe	Thr 6875	Leu	Asn	Phe	Thr	Ile 6880	Thr	Asn	Leu	Xaa	Tyr 6885	Glu	Glu	Xaa
Met	Xaa 6890	Xaa	Pro	Gly	Ser	Arg 6895	Lys	Phe	Asn	Thr	Thr 6900	Glu	Arg	Val

Leu	Gln 6905		Leu	Leu	Хаа	Pro 6910		Phe	Lys	Xaa	Thr 6915		Val	Gly
Xaa	Leu 6920	Tyr	Ser	Gly	Cys	Arg 6925		Thr	Leu	Leu	Arg 6930		Glu	Lys
Xaa	Xaa 6935		Ala	Thr		Val 6940	_	Xaa	Xaa	Cys	Xaa 6945		Xaa	Xaa
Asp	Pro 6950	Xaa	Xaa	Pro	Gly	Leu 6955		Arg	Glu	Xaa	Leu 6960	_	Trp	Glu
Leu	Ser 6965		Leu	Thr	Xaa	Xaa 6970		Xaa	Glu	Leu	Gly 6975		Tyr	Xaa
Leu	Asp 6980	Arg	Xaa	Ser	Leu	Tyr 6985		Asn	Gly	Phe	Thr 6990		Arg	Ser
Ser	Val 6995	Pro	Thr	Thr	Ser	Ser 7000		Gly	Thr	Ser	Thr 7005		His	Leu
Ala	Thr 7010	Ser	Gly	Thr	Pro	Ser 7015		Leu	Pro	Gly	His 7020		Ala	Pro
Val	Pro 7025	Leu	Leu	Ile	Pro	Phe 7030	Thr	Leu	Asn	Phe	Thr 7035		Thr	Asn
Leu	His 7040	Tyr	Glu	Glu	Asn	Met 7045		His	Pro	Gly	Ser 7050	Arg	Lys	Phe
Asn	Thr 7055	Thr	Glu	Arg	Val	Leu 7060	Gln	Gly	Leu	Leu	Lys 7065	Pro	Leu	Phe
Lys	Ser 7070	Thr	Ser	Val	Gly	Pro 7075	Leu	Tyr	Ser	Gly	Cys 7080	Arg	Leu	Thr
Leu	Leu 7085	Arg	Pro	Glu	Lys	His 7090	Gly	Ala	Ala	Thr	Gly 7095	Val	Asp	Ala
Ile	Cys 7100	Thr	Leu	Arg	Leu	Asp 7105	Pro	Thr	Gly	Pro	Gly 7110	Leu	Asp	Arg
Glu	Xaa 7115	Leu	Tyr	Trp	Glu	Leu 7120	Ser	Xaa	Leu	Thr	Xaa 7125	Xaa	Ile	Хаа
Glu	Leu 7130	Gly	Pro	Tyr	Xaa	Leu 7135	Asp	Arg	Xaa	Ser	Leu 7140	Tyr	Val	Asn
Gly	Phe 7145	Xaa	Xaa	Xaa	Xaa	Xaa 7150	Xaa	Xaa	Xaa	Thr	Ser 7155	Thr	Pro	Gly
Thr	Ser 7160	Xaa	Val	Xaa	Leu	Xaa 7165	Thr	Ser	Gly	Thr	Pro 7170	Xaa	Xaa	Xaa
Pro	Xaa 7175	Xaa	Thr	Xaa	Xaa	Xaa 7180	Pro	Leu	Leu	Xaa	Pro 7185	Phe	Thr	Leu
Asn	Phe 7190	Thr	Ile	Thr	Asn	Leu 7195	Xaa	Tyr	Glu	Glu	Xaa 7200	Met	Xaa	Xaa

Pro	Gly 720	Se. 5	r Ar	g Ly:	s Phe	e Asn 7210	Thr	Thi	r Glu	ı Arç	y Val 721		u Gli	n Gly
Leu	1 Leu 722	Ха. 0	a Pro	o Xaa	a Phe	E Lys 7225	Xaa 5	Thr	Ser	. Val	. Gly 7230		a Lei	ı Tyr
Ser	723	Су: 5	s Ar	g Lei	ı Thr	Leu 7240	Leu)	ı Arg	g Xaa	Glu	Lys 7245		a Xaa	a Ala
Ala	Thr 7250	Xaa O	a Val	l Asp) Xaa	Xaa 7255		Xaa	. Xaa	Xaa	Xaa 7260		Pro) Xaa
Xaa	Pro 7265	Gl <u>y</u> 5	y Lei	ı Asp	Arg	7270	Xaa	Leu	Tyr	Trp	Glu 7275		ı Ser	: Xaa
Leu	Thr 7280	Xaa)	a Xaa	ı Ile	. Xaa	Glu 7285	Leu	Gly	Pro	Tyr	Xaa 7290		a Asp	Arg
Xaa	Ser 7295	Leu	ı Tyr	· Val	. Asn	Gly 7300		Thr	His	Arg	Thr 7305		Val	Pro
Thr	Thr 7310	Ser	Thr	Pro	Gly	Thr 7315	Ser	Thr	Val	His	Leu 7320		Thr	Ser
Gly	Thr 7325	Pro	Ser	Ser	Leu	Pro 7330		His	Thr	Ala	Pro 7335		Pro	Leu
Leu	Ile 7340	Pro	Phe	Thr	Leu	Asn 7345	Phe	Thr	Ile	Thr	Asn 7350		Gln	Tyr
Glu	Glu 7355	Asp	Met	His	Arg	Pro 7360	Gly	Ser	Arg	Lys	Phe 7365	Asn	Thr	Thr
Glu	Arg 7370	Val	Leu	Gln	Gly	Leu 7375	Leu	Ser	Pro	Ile	Phe 7380	Lys	Asn	Ser
Ser	Val 7385	Gly	Pro	Leu	Tyr	Ser 7390	Gly	Cys	Arg		Thr 7395	Ser	Leu	Arg
Pro	Glu 7400	Lys	Asp	Gly	Ala	Ala 7405	Thr	Gly	Met	Asp	Ala 7410	Val	Cys	Leu
Tyr	His 7415	Pro	Asn	Pro	Lys	Arg 7420	Pro	Gly	Leu		Arg 7425	Glu	Gln	Leu
Tyr	Cys 7430	Glu	Leu	Ser	Gln	Leu 7435	Thr	His	Asn	Ile	Thr 7440	Glu	Leu	Gly
Pro	Tyr 7445	Ser	Leu	Asp	Arg	Asp 7450	Ser	Leu	Tyr		Asn 7455	Gly	Phe	Thr
His	Gln 7460	Asn	Ser	Val	Pro	Thr 7465	Thr	Ser	Thr		Gly 7470	Thr	Ser	Thr
Val	Tyr 7475	Trp	Ala	Thr	Thr	Gly 7480	Thr	Pro	Ser		Phe 7485	Pro	Gly	His
Thr	Xaa	Xaa	Xaa	Pro	Leu	Leu	Xaa	Pro	Phe	Thr	Leu	Asn	Phe	Thr

	749	0				749	5				750	0		
Il€	750	As:	n Le	u Xaa	а Ту:	r Glu 751	Gl [.]	u Xa	a Met	: Xaa	a Xaa 751	Pr 5	o Gl	y Ser
Arg	7520	Phe O	e Ası	n Thi	r Thi	r Glu 752	Aro 5	g Va.	l Leu	ı Glr	1 Gly 753	Le 0	u Le	u Xaa
Pro	7535	Phe 5	e Ly:	s Xaa	a Thi	754	Val	l Gly	y Xaa	Leu	Tyr 754	Se 5	r Gl	y Cys
Arg	7550	Thi	: Let	ı Leu	ı Arç	755	Glu 5	ı Lys	з Хаа	Xaa	Ala 7560		a Th	r Xaa
Val	Asp 7565	Xaa	a Xaa	a Cys	s Xaa	Xaa 7570	Xaa)	xaa	Asp	Pro	Xaa 7575		a Pro	o Gly
Leu	Asp 7580	Arç	g Glu	ı Xaa	Leu	Tyr 7585	Trp	Glu	Leu	Ser	Xaa 7590	Le:	ı Th:	r Xaa
Xaa	Ile 7595	Xaa	Glu	Leu	Gly	7600	Tyr	Xaa	Leu	Asp	Arg 7605		a Sei	r Leu
Tyr	Val 7610	Asn	Gly	Phe	Thr	His 7615	Trp	Ser	Ser	Gly	Leu 7620		Thi	Ser
Thr	Pro 7625	Trp	Thr	Ser	Thr	Val 7630	Asp	Leu	Gly	Thr	Ser 7635	Gly	Thr	Pro
Ser	Pro 7640	Val	Pro	Ser	Pro	Thr 7645	Thr	Ala	Gly	Pro	Leu 7650		Val	Pro
Phe	Thr 7655	Leu	Asn	Phe	Thr	Ile 7660	Thr	Asn	Leu	Gln	Tyr 7665		Glu	Asp
Met	His 7670	Arg	Pro	Gly	Ser	Arg 7675	Lys	Phe	Asn	Ala	Thr 7680		Arg	Val
Leu	Gln 7685	Gly	Leu	Leu	Ser	Pro 7690	Ile	Phe	Lys	Asn	Thr 7695	Ser	Val	Gly
Pro	Leu 7700	Tyr	Ser	Gly	Cys	Arg 7705	Leu	Thr	Leu	Leu	Arg 7710	Pro	Glu	Lys
Gln	Glu 7715	Ala	Ala	Thr	Gly	Val 7720	Asp	Thr	Ile		Thr 7725	His	Arg	Val
-	Pro 7730	Ile	Gly	Pro	Gly	Leu 7735	Asp	Arg	Glu		Leu 7740	Tyr	Trp	Glu
Leu	Ser 7745	Xaa	Leu	Thr	Xaa	Xaa 7750	Ile	Xaa	Glu		Gly 7755	Pro	Tyr	Xaa
Leu .	Asp 7760	Arg	Xaa	Ser	Leu	Tyr 7765	Val	Asn	Gly		Xaa 7770	Xaa	Xaa	Xaa
Xaa :	Xaa 7775	Xaa	Xaa	Thr	Ser	Thr 7780	Pro	Gly	Thr :		Xaa 7785	Val	Xaa	Leu

Xaa	Thr 7790	Sei	Gly	/ Thi	r Pro	Xaa 7795	Xaa	a Xaa	a Pro) Xaa	3 Xaa 7800		r Xaa	a Xaa
Xaa	Pro 7805		ı Leı	ı Xaa	a Pro	Phe 7810		: Leu	ı Asr	n Phe	Thr 7815		e Thi	Asn
Leu	7820	Tyr)	Glu	ı Glü	ı Xaa	Met 7825		a Xaa	a Pro	Gly	7830		g Lys	s Phe
Asn	Thr 7835	Thr	Glu	a Arg	y Val	Leu 7840		Gly	/ Leu	. Leu	Xaa 7845) Xaa	Phe
Lys	Xaa 7850	Thr	Ser	Val	Gly	7855		Tyr	Ser	Gly	7 Cys 7860		g Leu	Thr
Leu	Leu 7865	Arg	Xaa	Glu	Lys	Xaa 7870		Ala	Ala	Thr	Xaa 7875		. Asp	Хаа
Xaa	Cys 7880	Xaa	Xaa	Xaa	Xaa	Asp 7885	Pro	Xaa	Xaa	Pro	Gly 7890		Asp	Arg
Glu	Xaa 7895	Leu	Tyr	Trp	Glu	Leu 7900		Xaa	Leu	Thr	Xaa 7905		Ile	Xaa
Glu	Leu 7910	Gly	Pro	Tyr	Xaa	Leu 7915	Asp	Arg	Xaa	Ser	Leu 7920		Val	Asn
Gly	Phe 7925	Thr	His	Arg	Ser	Phe 7930	Gly	Leu	Thr	Thr	Ser 7935		Pro	Trp
Thr	Ser 7940	Thr	Val	Asp	Leu	Gly 7945	Thr	Ser	Gly	Thr	Pro 7950		Pro	Val
Pro	Ser 7955	Pro	Thr	Thr	Ala	Gly 7960	Pro	Leu	Leu	Val	Pro 7965		Thr	Leu
Asn	Phe 7970	Thr	Ile	Thr	Asn	Leu 7975	Gln	Tyr	Glu	Glu	Asp 7980		His	Arg
Pro	Gly 7985	Ser	Arg	Lys	Phe	Asn 7990	Thr	Thr	Glu	Arg	Val 7995	Leu	Gln	Gly
Leu	Leu 8000	Thr	Pro	Leu	Phe	Arg 8005	Asn	Thr	Ser	Val	Ser 8010	Ser	Leu	Tyr
Ser	Gly 8015	Cys	Arg	Leu	Thr	Leu 8020	Leu	Arg	Pro	Glu	Lys 8025	Asp	Gly	Ala
Ala	Thr 8030	Arg	Val	Asp	Ala	Val 8035	Cys	Thr	His	Arg	Pro 8040	Asp	Pro	Lys
Ser	Pro 8045	Gly	Leu	Asp	Arg	Glu 8050	Xaa	Leu	Tyr	Trp	Glu 8055	Leu	Ser	Xaa
Leu	Thr 8060	Xaa	Xaa	Ile	Xaa	Glu 8065	Leu	Gly	Pro	Tyr	Xaa 8070	Leu	Asp	Arg
Xaa	Ser 8075	Leu	Tyr	Val	Asn	Gly 8080	Phe	Xaa	Xaa	Xaa	Xaa 8085	Xaa	Xaa	Xaa

Xaa	Thr 8090		Thr	Pro	Gly	Thr 8095		Xaa	Val	Xaa	Leu 8100		Thr	Ser
Gly	Thr 8105		Xaa	Xaa	Xaa	Pro 8110		Xaa	Thr	Xaa	Xaa 8115		Pro	Leu
Leu	Xaa 8120		Phe	Thr	Leu	Asn 8125		Thr	Ile	Thr	Asn 8130		Xaa	Tyr
Glu	Glu 8135		Met	Xaa	Xaa	Pro 8140		Ser	Arg	Lys	Phe 8145		Thr	Thr
Glu	Arg 8150		Leu	Gln	Gly	Leu 8155		Xaa	Pro	Xaa	Phe 8160		Xaa	Thr
Ser	Val 8165		Xaa	Leu		Ser 8170		Cys	Arg	Leu	Thr 8175		Leu	Arg
Xaa	Glu 8180		Xaa	Xaa	Ala	Ala 8185		Xaa	Val	Asp	Xaa 8190		Cys	Xaa
Xaa	Xaa 8195		Asp	Pro	Xaa	Xaa 8200		Gly	Leu	Asp	Arg 8205		Xaa	Leu
Tyr	Trp 8210		Leu	Ser	Xaa	Leu 8215		Xaa	Xaa	Ile	Xaa 8220		Leu	Gly
Pro	Tyr 8225	Xaa	Leu	Asp	Arg	Xaa 8230	Ser	Leu	Tyr	Val	Asn 8235	Gly	Phe	Thr
His	Trp 8240	Ile	Pro	Val	Pro	Thr 8245		Ser	Thr	Pro	Gly 8250	Thr	Ser	Thr
Val	Asp 8255	Leu	Gly	Ser	Gly	Thr 8260	Pro	Ser	Ser	Leu	Pro 8265	Ser	Pro	Thr
Thr	Ala 8270	Gly	Pro	Leu		Val 8275	Pro	Phe	Thr		Asn 8280	Phe	Thr	Ile
Thr	Asn 8285	Leu	Gln	Tyr	Gly	Glu 8290	Asp	Met	Gly	His	Pro 8295	Gly	Ser	Arg
Lys	Phe 8300	Asn	Thr	Thr	Glu	Arg 8305	Val	Leu	Gln	Gly	Leu 8310	Leu	Gly	Pro
Ile	Phe 8315	Lys	Asn	Thr	Ser	Val 8320	Gly	Pro	Leu	Tyr	Ser 8325	Gly	Cys	Arg
Leu	Thr 8330	Ser	Leu	Arg	Ser	Glu 8335	Lys	Asp	Gly	Ala	Ala 8340	Thr	Gly	Val
Asp	Ala 8345	Ile	Cys	Ile	His	His 8350	Leu	Asp	Pro	Lys	Ser 8355	Pro	Gly	Leu
Asp	Arg 8360	Glu	Xaa	Leu	Tyr	Trp 8365	Glu	Leu	Ser	Xaa	Leu 8370	Thr	Xaa	Xaa
Ile	Xaa	Glu	Leu	Gly	Pro	Tyr	Xaa	Leu	Asp	Arg	Xaa	Ser	Leu	Tyr

	8375					8380					8385			
Val	Asn 8390		Phe	Xaa	Xaa	Xaa 8395		Xaa	Xaa	Xaa	Xaa 8400		Ser	Thr
Pro	Gly 8405		Ser	Xaa	Val	Xaa 8410		Xaa	Thr	Ser	Gly 8415		Pro	Xaa
Xaa	Xaa 8420	Pro	Xaa	Xaa	Thr	Xaa 8425		Xaa	Pro	Leu	Leu 8430		Pro	Phe
Thr	Leu 8435	Asn	Phe	Thr	Ile	Thr 8440	Asn	Leu	Xaa	Tyr	Glu 8445		Xaa	Met
Xaa	Xaa 8450		Gly	Ser		Lys 8455		Asn	Thr	Thr	Glu 8460	_	Val	Leu
Gln	Gly 8465		Leu	Xaa	Pro	Xaa 8470		Lys	Xaa	Thr	Ser 8475		Gly	Xaa
Leu	Tyr 8480	Ser	Gly	Cys	Arg	Leu 8485	Thr	Leu	Leu	Arg	Xaa 8490		Lys	Xaa
Xaa	Ala 8495	Ala	Thr	Xaa	Val	Asp 8500	Xaa	Xaa	Суѕ	Xaa	Xaa 8505	Xaa	Xaa	Asp
Pro	Xaa 8510		Pro	Gly	Leu	Asp 8515	Arg	Glu	Xaa	Leu	Tyr 8520	Trp	Glu	Leu
Ser	Xaa 8525	Leu	Thr	Xaa	Xaa	Ile 8530	Xaa	Glu	Leu	Gly	Pro 8535		Xaa	Leu
Asp	Arg 8540	Xaa	Ser	Leu	Tyr	Val 8545	Asn	Gly	Phe	Thr	His 8550	Gln	Thr	Phe
Ala	Pro 8555	Asn	Thr	Ser	Thr	Pro 8560	Gly	Thr	Ser	Thr	Val 8565	Asp	Leu	Gly
Thr	Ser 8570	Gly	Thr	Pro	Ser	Ser 8575	Leu	Pro	Ser	Pro	Thr 8580	Ser	Ala	Gly
Pro	Leu 8585	Leu	Val	Pro	Phe	Thr 8590	Leu	Asn	Phe	Thr	Ile 8595	Thr	Asn	Leu
Gln	Tyr 8600	Glu	Glu	Asp	Met	His 8605	His	Pro	Gly	Ser	Arg 8610	Lys	Phe	Asn
Thr	Thr 8615	Glu	Arg	Val	Leu	Gln 8620	Gly	Leu	Leu	Gly	Pro 8625	Met	Phe	Lys
Asn	Thr 8630	Ser	Val	Gly	Leu	Leu 8635	Tyr	Ser	Gly	Cys	Arg 8640	Leu	Thr	Leu
Leu	Arg 8645	Pro	Glu	Lys	Asn	Gly 8650	Ala	Ala	Thr	Arg	Val 8655	Asp	Ala	Val
Cys	Thr 8660	His	Arg	Pro	Asp	Pro 8665	Lys	Ser	Pro	Gly	Leu 8670	Asp	Arg	Glu

Xaa	Leu 8675	Tyr	Trp	o Glu	ı Leu	Ser 8680		Leu	Thr	Xaa	Xaa 8685		e Xaa	a Glu
Leu	Gly 8690		Туг	: Xaa	Leu	Asp 8695		Xaa	Ser	Leu	Tyr 8700		. Asr	Gly
Phe	Xaa 8705	Xaa	Xaa	. Xaa	Xaa	Xaa 8710		Xaa	Thr	Ser	Thr 8715		Gly	Thr
Ser	Xaa 8720		Xaa	Leu	Xaa	Thr 8725		Gly	Thr	Pro	Xaa 8730		Xaa	Pro
Xaa	Xaa 8735		Xaa	Xaa	Xaa	Pro 8740		Leu	Xaa	Pro	Phe 8745		Leu	Asn
Phe	Thr 8750	Ile	Thr	Asn	Leu	Xaa 8755		Glu	Glu	Xaa	Met 8760		Xaa	Pro
Gly	Ser 8765	Arg	Lys	Phe	Asn	Thr 8770		Glu	Arg	Val	Leu 8775		Gly	Leu
Leu	Lys 8780		Leu	Phe	Lys	Ser 8785		Ser	Val	Gly	Pro 8790		Tyr	Ser
Gly	Cys 8795	Arg	Leu	Thr		Leu 8800		Pro	Glu	Lys	Asp 8805	_	Val	Ala
Thr	Arg 8810	Val	Asp	Ala	Ile	Cys 8815	Thr	His	Arg	Pro	Asp 8820	Pro	Lys	Ile
Pro	Gly 8825	Leu	Asp	Arg	Gln	Gln 8830	Leu	Tyr	Trp	Glu	Leu 8835	Ser	Gln	Leu
Thr	His 8840	Ser	Ile	Thr	Glu	Leu 8845	Gly	Pro	Tyr	Thr	Leu 8850	Asp	Arg	Asp
Ser	Leu 8855	Tyr	Val	Asn	Gly	Phe 8860	Thr	Gln	Arg	Ser	Ser 8865	Val	Pro	Thr
	Ser 8870	Thr	Pro	Gly	Thr	Phe 8875	Thr	Val	Gln	Pro	Glu 8880	Thr	Ser	Glu
Thr	Pro 8885	Ser	Ser	Leu	Pro	Gly 8890	Pro	Thr	Ala	Thr	Gly 8895	Pro	Val	Leu
Leu	Pro 8900	Phe	Thr	Leu	Asn	Phe 8905	Thr	Ile	Thr	Asn	Leu 8910	Gln	Tyr	Glu
Glu	Asp 8915	Met	His	Arg	Pro	Gly 8920	Ser	Arg	Lys	Phe	Asn 8925	Thr	Thr	Glu
Arg	Val 8930	Leu	Gln	Gly	Leu	Leu 8935	Met	Pro	Leu	Phe	Lys 8940	Asn	Thr	Ser
Val	Ser 8945	Ser	Leu	Tyr	Ser	Gly 8950	Cys	Arg	Leu	Thr	Leu 8955	Leu	Arg	Pro
Glu	Lys 8960	Asp	Gly	Ala	Ala	Thr 8965	Arg	Val	Asp	Ala	Val 8970	Cys	Thr	His

Arg	Pro 8975		Pro	Lys	Ser	Pro 8980		Leu	Asp	Arg	Glu 8985	_	Leu	Tyr
Trp	Lys 8990	Leu	Ser	Gln	Leu	Thr 8995	His	Gly	Ile	Thr	Glu 9000		Gly	Pro
Tyr	Thr 9005	Leu	Asp	Arg	His	Ser 9010		Tyr	Val	Asn	Gly 9015		Thr	His
Gln	Ser 9020	Ser	Met	Thr	Thr	Thr 9025	Arg	Thr	Pro	Asp	Thr 9030		Thr	Met
His	Leu 9035	Ala	Thr	Ser	Arg	Thr 9040	Pro	Ala	Ser	Leu	Ser 9045		Pro	Thr
Thr	Ala 9050	Ser	Pro	Leu	Leu	Val 9055	Leu	Phe	Thr	Ile	Asn 9060	Phe	Thr	Ile
Thr	Asn 9065	Leu	Arg	Tyr	Glu	Glu 9070	Asn	Met	His	His	Pro 9075	Gly	Ser	Arg
Lys	Phe 9080	Asn	Thr	Thr	Glu	Arg 9085	Val	Leu	Gln	Gly	Leu 9090	Leu	Arg	Pro
Val	Phe 9095	Lys	Asn	Thr	Ser	Val 9100	Gly	Pro	Leu	Tyr	Ser 9105	Gly	Cys	Arg
Leu	Thr 9110	Leu	Leu	Arg	Pro	Lys 9115	Lys	Asp	Gly	Ala	Ala 9120	Thr	Lys	Val
Asp	Ala 9125	Ile	Cys	Thr	Tyr	Arg 9130	Pro	Asp	Pro	Lys	Ser 9135	Pro	Gly	Leu
Asp	Arg 9140	Glu	Gln	Leu	Tyr	Trp 9145	Glu	Leu	Ser	Gln	Leu 9150	Thr	His	Ser
Ile	Thr 9155	Glu	Leu	Gly		Tyr 9160	Thr	Gln	Asp	Arg	Asp 9165	Ser	Leu	Tyr
Asn	Val 9170	Gly	Phe	Thr	Gln	Arg 9175	Ser	Ser	Val	Pro	Thr 9180	Thr	Ser	Val
Pro	Gly 9185	Thr	Pro	Thr	Val	Asp 9190	Leu	Gly	Thr	Ser	Gly 9195	Thr	Pro	Val
Ser	Lys 9200	Pro	Gly	Pro	Ser	Ala 9205	Ala	Ser	Pro	Leu	Leu 9210	Val	Leu	Phe
Thr	Leu 9215	Asn	Gly	Thr	Ile	Thr 9220	Asn	Leu	Arg	Tyr	Glu 9225	Glu	Asn	Met
Gln	His 9230	Pro	Gly	Ser	Arg	Lys 9235	Phe	Asn	Thr	Thr	Glu 9240	Arg	Val	Leu
Gln	Gly 9245	Leu	Leu	Arg	Ser	Leu 9250	Phe	Lys	Ser	Thr	Ser 9255	Val	Gly	Pro
Leu	Tyr	Ser	Gly	Cys	Arg	Leu	Thr	Leu	Leu	Arg	Pro	Glu	Lys	Asp

	9260					9265	5				9270)		
Gly	Thr 9275	Ala	Thr	Gly	Val	Asp 9280		Ile	Cys	Thr	His 9285		Pro	Asp
Pro	Lys 9290		Pro	Arg	Leu	Asp 9295		Glu	Gln	Leu	Tyr 9300		Glu	Leu
Ser	Gln 9305	Leu	Thr	His	Asn	Ile 9310		Glu	Leu	Gly	His 9315		Ala	Leu
Asp	Asn 9320	Asp	Ser	Leu	Phe	Val 9325		Gly	Phe	Thr	His 9330	_	Ser	Ser
Val	Ser 9335		Thr	Ser	Thr	Pro 9340		Thr	Pro	Thr	Val 9345		Leu	Gly
Ala	Ser 9350		Thr	Pro	Ala	Ser 9355		Phe	Gly	Pro	Ser 9360		Ala	Ser
His	Leu 9365		Ile	Leu	Phe	Thr 9370		Asn	Phe	Thr	Ile 9375		Asn	Leu
Arg	Tyr 9380		Glu	Asn	Met	Trp 9385		Gly	Ser	Arg	Lys 9390		Asn	Thr
Thr	Glu 9395	Arg	Val	Leu	Gln	Gly 9400		Leu	Arg	Pro	Leu 9405		Lys	Asn
Thr	Ser 9410	Val	Gly	Pro	Leu	Tyr 9415	Ser	Gly	Ser	Arg	Leu 9420	Thr	Leu	Leu
Arg	Pro 9425	Glu	Lys	Asp	Gly	Glu 9430	Ala	Thr	Gly	Val	Asp 9435	Ala	Ile	Cys
Thr	His 9440	Arg	Pro	Asp	Pro	Thr 9445	Gly	Pro	Gly	Leu	Asp 9450	Arg	Glu	Gln
Leu	Tyr 9455	Leu	Glu	Leu	Ser	Gln 9460	Leu	Thr	His	Ser	Ile 9465	Thr	Glu	Leu
Gly	Pro 9470	Tyr	Thr	Leu	Asp	Arg 9475	Asp	Ser	Leu	Tyr	Val 9480	Asn	Gly	Phe
Thr	His 9485	Arg	Ser	Ser	Val	Pro 9490	Thr	Thr	Ser	Thr	Gly 9495	Val	Val	Ser
Glu	Glu 9500	Pro	Phe	Thr	Leu	Asn 9505	Phe	Thr	Ile	Asn	Asn 9510	Leu	Arg	Tyr
Met	Ala 9515	Asp	Met	Gly	Gln	Pro 9520	Gly	Ser	Leu	Lys	Phe 9525	Asn	Ile	Thr
Asp	Asn 9530	Val	Met	Lys	His	Leu 9535	Leu	Ser	Pro	Leu	Phe 9540	Gln	Arg	Ser
Ser	Leu 9545	Gly	Ala	Arg	Tyr	Thr 9550	Gly	Cys	Arg	Val	Ile 9555	Ala	Leu	Arg

Ser	Val 9560		Asn	Gly	Ala	Glu 9565		Arg	Val	Asp	Leu 9570		Cys	Thr
Tyr	Leu 9575		Pro	Leu	Ser	Gly 9580		Gly	Leu	Pro	Ile 9585	-	Gln	Val
Phe	His 9590	Glu	Leu	Ser	Gln	Gln 9595	Thr	His	Gly	Ile	Thr 9600	_	Leu	Gly
Pro	Tyr 9605		Leu	Asp	Lys	Asp 9610		Leu	Tyr	Leu	Asn 9615	_	Tyr	Asn
Glu	Pro 9620		Leu	Asp	Glu	Pro 9625		Thr	Thr	Pro	Lys 9630		Ala	Thr
Thr	Phe 9635	Leu	Pro	Pro	Leu	Ser 9640	Glu	Ala	Thr	Thr	Ala 9645		Gly	Tyr
His	Leu 9650	Lys	Thr	Leu	Thr	Leu 9655	Asn	Phe	Thr	Ile	Ser 9660	Asn	Leu	Gln
Tyr	Ser 9665		Asp	Met	Gly	Lys 9670		Ser	Ala	Thr	Phe 9675	Asn	Ser	Thr
Glu	Gly 9680	Val	Leu	Gln	His	Leu 9685	Leu	Arg	Pro	Leu	Phe 9690	Gln	Lys	Ser
Ser	Met 9695	Gly	Pro	Phe	Tyr	Leu 9700	Gly	Cys	Gln	Leu	Ile 9705	Ser	Leu	Arg
Pro	Glu 9710	Lys	Asp	Gly	Ala	Ala 9715	Thr	Gly	Val	Asp	Thr 9720	Thr	Cys	Thr
Tyr	His 9725	Pro	Asp	Pro	Val	Gly 9730	Pro	Gly	Leu	Asp	Ile 9735	Gln	Gln	Leu
Tyr	Trp 9740	Glu	Leu	Ser	Gln	Leu 9745	Thr	His	Gly	Val	Thr 9750	Gln	Leu	Gly
Phe	Tyr 9755	Val	Leu	Asp	Arg	Asp 9760	Ser	Leu	Phe	Ile	Asn 9765	Gly	Tyr	Ala
Pro	Gln 9770	Asn	Leu	Ser	Ile	Arg 9775	Gly	Glu	Tyr	Gln	Ile 9780	Asn	Phe	His
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Ser Thr Glu Gly Val Leu Gln His Leu Leu Arg Pro Leu Phe Gln Lys 35 40 45

Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys Gln Leu Ile Ser Leu Arg 50 55 60

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr 65 70 75 80

His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp 85 90 95

Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val 100 105 110

Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly Tyr Ala Pro Gln Asn Leu 115 120 125

Ser Ile Arg Gly Glu Tyr Gln Ile Asn Phe His Ile Val Asn Trp Asn 130 135 140

Leu Ser Asn Pro Asp Pro Thr Ser Ser Glu Tyr Ile Thr Leu Leu Arg 145 150 155 160

Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys Gly Ser Gln Leu His 165 170 175

Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu Thr Met Asp Ser Val 180 185 190

Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn Leu Asp Pro Ser Leu 195 200 205

Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn Ala Ser Phe His Trp 210 215 220

Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His Val Thr Glu Met Glu 225 230 235 240

Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Ser Thr Gln His Phe Tyr
245 250 255

Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser Gln Asp Lys Ala Gln 260 265 270

Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg Asn Ile Glu Asp Ala 275 280 285 Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys Ser Tyr Phe Ser Asp 290 295 300

Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn Arg His His Thr Gly 305 310 315 320

Val Asp Ser Leu Cys Asn Phe Ser Pro Leu Ala Arg Arg Val Asp Arg 325 330 335

Val Ala Ile Tyr Glu Glu Phe Leu Arg Met Thr Arg As
n Gly Thr Gl
n 340 345350

Leu Gln Asn Phe Thr Leu Asp Arg Ser Ser Val Leu Val Asp Gly Tyr 355 360 365

Ser Pro Asn Arg Asn Glu Pro Leu Thr Gly Asn Ser Asp Leu Pro Phe 370 375 380

Trp Ala Val Ile Leu Ile Gly Leu Ala Gly Leu Leu Gly Leu Ile Thr 385 390 395 400

Cys Leu Ile Cys Gly Val Leu Val Thr Thr Arg Arg Arg Lys Lys Glu 405 410 415

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Ser Pro Ala Ser Pro Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met 35 40 45

Glu Thr Thr Thr Thr Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr 50 55 60

Thr Ser Arg Ala Thr Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly 65 70 75 80

Thr Leu Thr Pro Leu Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu

85 90 95 Thr Glu Met Met Ile Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu 100 105 Thr Thr Ser Ser Leu Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr 135 Ala Ser Leu Val Ser Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln 150 155 Thr Leu Asp Val Ser Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu 215 Leu Asp Ala Leu Thr Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser 235 225 230 Thr Thr Phe Pro Thr Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg 245 250 Thr Thr Trp Leu Thr His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg 260 265 Thr Ile Pro Asn Phe Ser His His Glu Ser Asp Ala Thr Pro Ser Ile 280 Ala Thr Ser Pro Gly Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr 300 Val Ser Pro Gly Ala Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly 330 325 Glu Pro Lys Thr Ile Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr 345 Ser Ser Ala Ile Pro Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn 370 375 Arg Ala Leu Thr Asn Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu 390 395

Val Thr His Pro Ala Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser 405 410 Ile Phe Phe His Ser Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser 420 425 His Gly Ala Glu Ser Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr 435 440 Glu Val Pro Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val 455 Ile Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Pro Gly Glu Pro Glu 465 470 475 Thr Thr Pro Ser Met Ala Thr Ser His Gly Glu Glu Ala Ser Ser Ala 485 490 Ile Pro Thr Pro Thr Val Ser Pro Gly Val Pro Gly Val Val Thr Ser 505 Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser 535 His Gly Thr Glu Ala Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val 555 Pro Gly Met Val Thr Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr 580 585 Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro 600 605 Thr Val Ser Pro Glu Val Pro Gly Val Val Thr Ser Leu Val Thr Ser 610 615 Ser Ser Gly Val Asn Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro 630 635 Gly Glu Leu Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu 645 Ala Ser Ser Ala Val Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly 665 Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Leu Ser Ser Glu Pro Glu Thr Thr Pro Ser 695 Met Ala Thr Ser His Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val 715 705 710 720

Ser Pro Glu Val Pro Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg 725 Ala Val Thr Ser Thr Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu 745 740 Pro Glu Thr Thr Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val 775 Thr Ser Leu Val Thr Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn 795 790 Leu Thr Val Ala Ser Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala 805 810 His Pro Gly Thr Glu Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser 825 Thr Gly Glu Pro Phe Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu 855 Leu Asp Thr Met Pro Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser 870 875 865 Ser Ala Ile Ser Thr Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr 890 885 Ser Leu Val Thr Ser Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr 900 905 Val Pro Glu Ser Pro His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr 920 His Pro Ala Val Thr Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr 930 935 940 Ser His Ser Glu Pro Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val 970 Pro Asp Met Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser 985 Ile Thr Ile Pro Thr Leu Thr Leu Ser Ser Gly Glu Pro Glu Thr Thr 1000 1005 Thr Ser Phe Ile Thr Tyr Ser Glu Thr His Thr Ser Ser Ala Ile 1015 1010 Pro Thr Leu Pro Val Ser Pro Gly Ala Ser Lys Met Leu Thr Ser

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Leu	Thr 1055	Glu	Thr	Pro	Tyr	Glu 1060		Glu	Thr	Thr	Ala 1065	Ile	Gln	Leu
Ile	His 1070	Pro	Ala	Glu	Thr	Asn 1075	Thr	Met	Val	Pro	Arg 1080	Thr	Thr	Pro
Lys	Phe 1085	Ser	His	Ser	Lys	Ser 1090	Asp	Thr	Thr	Leu	Pro 1095	Val	Ala	Ile
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Pro	Gly 1205	Val	Val	Thr	Ser	Gln 1210	Val	Thr	Ser	Ser	Ala 1215	Thr	Asp	Thr
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Ala	Glu 1385	Thr	Ser	Thr		Leu 1390	Pro	Thr	Gln	Thr	Thr 1395	Ser	Ser	Leu
Phe	Thr 1400	Leu	Leu	Val	Thr	Gly 1405	Thr	Ser	Arg	Val	Asp 1410	Leu	Ser	Pro
Thr	Ala 1415	Ser	Pro	Gly	Val	Ser 1420	Ala	Lys	Thr	Ala	Pro 1425	Leu	Ser	Thr
His	Pro 1430	Gly	Thr	Glu	Thr	Ser 1435	Thr	Met	Ile	Pro	Thr 1440	Ser	Thr	Leu
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His	Pro 1670	Gly	Ser	Arg	Lys	Phe 1675	Asn	Ala	Thr	Glu	Arg 1680	Glu	Leu	Gln
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Ser	Ala 1715	Met	Ala	Val	Asp	Ala 1720	Ile	Cys	Thr	His	Arg 1725	Pro	Asp	Pro
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Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu

45

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Arg 65	Pro	Glu	Lys	His	Glu 70	Ala	Ala	Thr	Gly	Val 75	Asp	Thr	Ile	Cys	Thr 80	
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Trp	Glu	Leu	Ser 100	Gln	Leu	Thr	Asn	Ser 105	Ile	Thr	Glu	Leu	Gly 110	Pro	Tyr	
Thr	Leu	Asp 115	Arg	Asp	Ser	Leu	Tyr 120	Val	Asn	Gly	Phe	Asn 125	Pro	Arg	Ser	
Ser	Val 130	Pro	Thr	Thr	Ser	Thr 135	Pro	Gly	Thr	Ser	Thr 140	Val	His	Leu	Ala	
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Ası	n Le	u His 35	з Туг	c Glu	ı Glu	ı Asn	Met 40	: Glr	n His	Pro	Gly	Ser 45	a Arg	g Lys	s Phe	
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As:	n Th	r Se	r Val	l Gly) Let	а Туз	r Sei	c Gly	7 Cys 75	s Ar	g Lei	ı Thi	r Lei	ı Leu 80	
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Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser 130 135 140

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Thr Leu Asp Arg Asp Ser Leu Tyr Val 5

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Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly Cys Arg Leu Ala Ser Leu 50 60

Arg Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr 65 70 75 80

His Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr 85 90 95

Trp Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr 100 105 110

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Ser 115 120 125

Ser Met Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Val Gly 130 135

Thr Ser Gly Thr Pro Ser Ser Ser Pro Ser Pro Thr Ala Ala Gly Pro 145 150 155 160

Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr 165 170 175

Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe Asn Thr Met Glu 180 185 190

Ser Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys Asn Thr Ser Val 195 200 205

Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys 210 220

Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His Arg Leu Asp 225 230 235

Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp Glu Leu Ser 245 250 255

Lys Leu Thr Asn Asp Ile Glu Glu Leu Gl.y Pro Tyr Thr Leu Asp Arg 260 265 270

Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr 295 Pro Ser Ser Leu Ser Ser Pro Thr Ile Met Ala Gly Pro Leu Leu Val 310 315 Pro Phe Thr Leu Asn Phe Thr Ile Thr Asn Leu Gln Tyr Gly Glu Asp 325 330 Met Gly His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu 360 Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Ser Glu Lys Asp Gly Ala 375 Ala Thr Gly Val Asp Ala Ile Cys Ile His His Leu Asp Pro Lys Ser 390 395 Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Arg Thr Ser Val Pro Thr Ser Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser Leu Pro Ser Pro Ala Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu 465 475 Asn Phe Thr Ile Thr Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro 490 Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Thr Leu Leu 500 505 Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys 520 Arg Leu Thr Leu Leu Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val 530 535 Asp Ala Ile Cys Thr His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys 570 Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly

Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr Pro Gly Thr Ser 595 600 605

Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr 610 615 620

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 625 630 635 640

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe $645 \hspace{1cm} 650 \hspace{1cm} 655$

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys
660 665 670

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 675 680 685

Arg Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr 690 695 700

His Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr 705 710 715 720

Trp Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr
725 730 735

Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly Phe Thr His Gln Thr 740 745 750

Ser Ala Pro Asn Thr Ser Thr Pro Gly Thr Ser Thr Val Asp Leu Gly 755 760 765

Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr 770 775 780

<210> 159

<211> 780

<212> PRT

<213> Homo sapiens

<400> 159

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Gly Pro Met Phe Lys 35 40 45

Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu

	50					55					60				
Arg 65	Pro	Glu	Lys	Asn	Gly 70	Ala	Ala	Thr	Gly	Met 75	Asp	Ala	Ile	Cys	Ser 80
His	Arg	Leu	Asp	Pro 85	Lys	Ser	Pro	Gly	Leu 90	Asn	Arg	Glu	Gln	Leu 95	Tyr
Trp	Glu	Leu	Ser 100	Gln	Leu	Thr	His	Gly 105	Ile	Lys	Glu	Leu	Gly 110	Pro	Tyr
Thr	Leu	Asp 115	Arg	Asn	Ser	Leu	Tyr 120	Val	Asn	Gly	Phe	Thr 125	His	Arg	Ser
Ser	Val 130	Ala	Pro	Thr	Ser	Thr 135	Pro	Gly	Thr	Ser	Thr 140	Val	Asp	Leu	Gly
Thr 145	Ser	Gly	Thr	Pro	Ser 150	Ser	Leu	Pro	Ser	Pro 155	Thr	Thr	Ala	Val	Pro 160
Leu	Leu	Val	Pro	Phe 165	Thr	Leu	Asn	Phe	Thr 170	Ile	Thr	Asn	Leu	Gln 175	Tyr
Gly	Glu	Asp	Met 180	Arg	His	Pro	Gly	Ser 185	Arg	Lys	Phe	Asn	Thr 190	Thr	Glu
Arg	Val	Leu 195	Gln	Gly	Leu	Leu	Gly 200	Pro	Leu	Phe	Lys	Asn 205	Ser	Ser	Val
Gly	Pro 210	Leu	Tyr	Ser	Gly	Cys 215	Arg	Leu	Ile	Ser	Leu 220	Arg	Ser	Glu	Lys
Asp 225		Ala	Ala	Thr	Gly 230	Val	Asp	Ala	Ile	Cys 235	Thr	His	His	Leu	Asn 240
Pro	Gln	Ser	Pro	Gly 245		Asp	Arg	Glu	Gln 250		Tyr	Trp	Gln	Leu 255	Ser
Gln	Met	Thr	Asn 260		Ile	Lys	Glu	Leu 265		Pro	Tyr	Thr	Leu 270	Asp	Arg
Asn	Ser	Leu 275		Val	Asn	Gly	Phe 280		His	Arg	Ser	Ser 285	Gly	Leu	Thr
Thr	Ser 290		Pro	Trp	Thr	Ser 295	Thr	Val	Asp	Leu	Gly 300	Thr	Ser	Gly	Thr
Pro 305		Pro	Val	Pro	Ser 310		Thr	Thr	Ala	Gly 315		Leu	Leu	Val	Pro 320
Phe	Thr	Leu	Asn	Ph∈ 325		Ile	e Thr	Asn	1 Let 330	ı Gln	Туг	Glu	Glu	335	Met
His	arç	pro	Gly 340		Arg	l Lys	s Phe	Asn 345	Ala	a Thr	Glu	Arg	7 Val 350	Leu	Glr
Gly	/ Leu	Leu 355		Pro) Ile	e Phe	e Lys 360		seı	Ser	· Val	. Gly 365	Pro	Leu	туз

Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala 375 Thr Gly Met Asp Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro 390 395 Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His 405 Asn Ile Thr Glu Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr 425 Val Asn Gly Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro 435 440 445 Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe 455 Pro Gly His Thr Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys 505 Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp 535 Ala Val Cys Leu Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg 550 555 Glu Gln Leu Tyr Cys Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu 570 565 Leu Gly Pro Tyr Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe 580 585 Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr 600 Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr 610 615 Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 645 650 Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Lys Pro Leu Phe Lys 665 Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 675 680 685

Arg Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr 690 695 700

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr 705 710 715 720

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr 725 730 735

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Arg Ser 740 745 750

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala 755 760 765

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr 770 775 780

<210> 160

<211> 624

<212> PRT

<213> Homo sapiens

<400> 160

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Arg Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Thr Pro Leu Phe Lys 35 40 45

Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 50 55 60

Arg Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr 65 70 75 80

His Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr 85 90 95

Trp Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr 100 105 110

Thr Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Asn Pro Trp Ser 115 120 125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val His Leu Ala 130 135 140

Thr Ser Gly Thr Pro Ser Ser Leu Pro Gly His Thr Ala Pro Val Pro

145						15	50							155						:	160)
Leu	Leu	Il	e E	?ro	Phe 165	ТЪ	nr	Leu	As	sn :	Phe	T 1	hr 70	Ile	Th	r A	usp	Leu	H 1	is ' 75	Гуз	r
Glu	Glu	As	n I	Met 180			is	Pro	G]	lу	Ser 185	Α	rg	Lys	Ph	e P	Asn	Thr 190	Т	hr	Gl	u
Arg	Val	Le 19	eu (Gly	, L	eu	Leu	L:	ys 00	Pro) I	.eu	Phe	Lу	s s	Ser 205	Thr	S	Ser	Va	1
Gly	Pro		eu '	Tyr	Sei	c G	ly	Cys 215	А	rg	Leu	ı T	Thr	Leu	Le 22	u 1	Arg	Pro	S (Slu	Ly	s
His 225	Gly	A	la	Ala	Th	r G	30	Val	. A	.sp	Ala	a I	Ile	Cys 235	Th	r	Leu	Ar	g I	Leu	As 24	q 0
Pro	Thr	G.	ly	Pro	Gl 24	у I 5	_eu	Asp) A	rg	Gl	u i	Arg 250	Lev	ı Ty	γr	Trp	Gl	u !	Leu 255	Se	:r
Gln	Lev	ı T	hr	Asn 260	Se	r ¹	/al	Thi	c G	Slu	Le 26	u 5	Gly	Pro	о Т	yr	Thr	Le 27	u . 0	Asp	Aı	rg
Asp	Se:	r L 2	eu :75	Tyr	Va	1 1	Asn	Gl	y F	Phe 280	Th	r	His	Ar	g S	er	Ser 285	· Va	1	Pro	Tì	ar
Thi	Se 29		le	Pro	G]	. У	Thr	Se 29	r <i>1</i> 5	Ala	Va	1	His	Le	u G 3	lu 00	Thr	: S∈	er	Gly	T	hr
30							310)						-	•							
Ph	e Th	r I	Leu	Ası	n Pl 3:	ne 25	Thr	: Il	.e	Thr	: As	sn	Let 330	ı Gl	n T	'yr	Glı	ı G	lu	Asp 335) M	iet
	g Hi			34	0						٠.	4)										
	y Le		355	5						יסכ	J											
		70						3	15													
38	nr A 35						39	U						Ū								
	ly L				4	105							41	. 0								
	ly I			4:	20						•	1 4 .	,									
	al F		43	35						4 4	10											
A	sp :	Thr		er T	hr	Met	: Н:	is I	Leu 155	ı Al	la '	Th	r S	er A	Arg	Th 46	r P	ro	Ala	a Se	er	Leu

Ser Gly Pro Thr Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn 465 470 475 480

Phe Thr Ile Thr Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly 485 490 495

Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln Gly Leu Leu Arg 500 505 510

Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg 515 520 525

Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp 530 540

Ala Ile Cys Thr Tyr Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg 545 550 555 560

Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu 565 570 575

Leu Gly Pro Tyr Thr Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe 580 580 590

Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile Pro Gly Thr Ser Ala 595 600 605

Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser Leu Pro Gly His Thr 610 620

<210> 161

<211> 468

<212> PRT

<213> Homo sapiens

<400> 161

Ala Thr Gly Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Glu Arg Val Leu Gln Gly Leu Leu Met Pro Leu Phe Lys 35 40 45

Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu 50 55 60

Arg Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Val Cys Thr 65 70 75 80

His Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr 85 90 95

Trp Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr 105 Thr Leu Asp Arg His Ser Leu Tyr Val Asn Gly Phe Thr His Gln Ser Ser Met Thr Thr Arg Thr Pro Asp Thr Ser Thr Met His Leu Ala 135 140 Thr Ser Arg Thr Pro Ala Ser Leu Ser Gly Pro Thr Thr Ala Ser Pro 150 155 Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr Asn Leu Arg Tyr 165 170 Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu 180 Arg Val Leu Gln Gly Leu Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr Arg Pro Asp 235 Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr Gln Asp Arg 265 Asp Ser Leu Tyr Asn Val Gly Phe Thr Gln Arg Ser Ser Val Pro Thr 280 Thr Ser Val Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr 295 Pro Val Ser Lys Pro Gly Pro Ser Ala Ala Ser Pro Leu Leu Val Leu 305 310 Phe Thr Leu Asn Gly Thr Ile Thr Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe Asn Thr Thr Glu Arg Val Leu Gln 345 Gly Leu Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr 360 Ser Gly Cys Arg Leu Thr Leu Leu Arg Pro Glu Lys Asp Gly Thr Ala 375 Thr Gly Val Asp Ala Ile Cys Thr His His Pro Asp Pro Lys Ser Pro 400 Arg Leu Asp Arg Glu Gln Leu Tyr Trp Glu Leu Ser Gln Leu Thr His

Ü

405 410 415

As Ile Thr Glu Leu Gly His Tyr Ala Leu Asp As Asp Ser Leu Phe 420 425 430

Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro Ala Ser Ile 450 460

Phe Gly Pro Ser 465

<210> 162

<211> 11721

<212> PRT

<213> Homo sapiens

<220>

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<222> (1)..(11721)

<223> any x = any amino acid

<400> 162

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Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro 20 2530

Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met Glu Thr Thr Thr 35 40 45

Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr 50 60

Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu 65 70 75 80

Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile 85 90 95

Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu 100 105 110

Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr 115 120 125

Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser 135 Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu 170 165 Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu 185 Leu Asp Thr Val Ser Ser Thr Ala Thr Ser His Gly Ala Asp Val Ser 200 Ser Ala Ile Pro Thr Asn Ile Ser Pro Ser Glu Leu Asp Ala Leu Thr Pro Leu Val Thr Ile Ser Gly Thr Asp Thr Ser Thr Thr Phe Pro Thr 235 Leu Thr Lys Ser Pro His Glu Thr Glu Thr Arg Thr Thr Trp Leu Thr 245 His Pro Ala Glu Thr Ser Ser Thr Ile Pro Arg Thr Ile Pro Asn Phe 265 Ser His His Glu Ser Asp Ala Thr Pro Ser Ile Ala Thr Ser Pro Gly 275 280 285 Ala Glu Thr Ser Ser Ala Ile Pro Ile Met Thr Val Ser Pro Gly Ala 295 Glu Asp Leu Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Arg Asn 310 315 Met Thr Ile Pro Thr Leu Thr Leu Ser Pro Gly Glu Pro Lys Thr Ile Ala Ser Leu Val Thr His Pro Glu Ala Gln Thr Ser Ser Ala Ile Pro 345 Thr Ser Thr Ile Ser Pro Ala Val Ser Arg Leu Val Thr Ser Met Val Thr Ser Leu Ala Ala Lys Thr Ser Thr Thr Asn Arg Ala Leu Thr Asn 375 380 Ser Pro Gly Glu Pro Ala Thr Thr Val Ser Leu Val Thr His Pro Ala Gln Thr Ser Pro Thr Val Pro Trp Thr Thr Ser Ile Phe Phe His Ser 405 410 Lys Ser Asp Thr Thr Pro Ser Met Thr Thr Ser His Gly Ala Glu Ser 420 425 Ser Ser Ala Val Pro Thr Pro Thr Val Ser Thr Glu Val Pro Gly Val

		435					440					445			
Val	Thr 450	Pro	Leu	Val	Thr	Ser 455	Ser	Arg	Ala	Val	Ile 460	Ser	Thr	Thr	Ile
Pro 465	Ile	Leu	Thr	Leu	Ser 470	Pro	Gly	Glu	Pro	Glu 475	Thr	Thr	Pro	Ser	Met 480
Ala	Thr	Ser	His	Gly 485	Glu	Glu	Ala	Ser	Ser 490	Ala	Ile	Pro	Thr	Pro 495	Thr
Val	Ser	Pro	Gly 500	Val	Pro	Gly	Val	Val 505	Thr	Ser	Leu	Val	Thr 510	Ser	Ser
Arg	Ala	Val 515	Thr	Ser	Thr	Thr	Ile 520	Pro	Ile	Leu	Thr	Phe 525	Ser	Leu	Gly
Glu	Pro 530	Glu	Thr	Thr	Pro	Ser 535	Met	Ala	Thr	Ser	His 540	Gly	Thr	Glu	Ala
Gly 545	Ser	Ala	Val	Pro	Thr 550	Val	Leu	Pro	Glu	Val 555	Pro	Gly	Met	Val	Thr 560
Ser	Leu	Val	Ala	Ser 565	Ser	Arg	Ala	Val	Thr 570	Ser	Thr	Thr	Leu	Pro 575	Thr
Leu	Thr	Leu	Ser 580	Pro	Gly	Glu	Pro	Glu 585	Thr	Thr	Pro	Ser	Met 590	Ala	Thr
Ser	His	Gly 595	Ala	Glu	Ala	Ser	Ser 600	Thr	Val	Pro	Thr	Val 605	Ser	Pro	Glu
Val	Pro 610	Gly	Val	Val	Thr	Ser 615	Leu	Val	Thr	Ser	Ser 620	Ser	Gly	Val	Asn
Ser 625	Thr	Ser	Ile	Pro	Thr 630	Leu	Ile	Leu	Ser	Pro 635	Gly	Glu	Leu	Glu	Thr 640
Thr	Pro	Ser	Met	Ala 645	Thr	Ser	His	Gly	Ala 650	Glu	Ala	Ser	Ser	Ala 655	Val
Pro	Thr	Pro	Thr 660	Val	Ser	Pro	Gly	Val 665	Ser	Gly	Val	Val	Thr 670	Pro	Leu
Val	Thr	Ser 675	Ser	Arg	Ala	Val	Thr 680	Ser	Thr	Thr	Ile	Pro 685	Ile	Leu	Thr
Leu	Ser 690	Ser	Ser	Glu	Pro	Glu 695	Thr	Thr	Pro	Ser	Met 700	Ala	Thr	Ser	His
Gly 705	Val	Glu	Ala	Ser	Ser 710	Ala	Val	Leu	Thr	Val 715	Ser	Pro	Glu	Val	Pro 720
Gly	Met	Val	Thr	Ser 725	Leu	Val	Thr	Ser	Ser 730	Arg	Ala	Val	Thr	Ser 735	Thr
Thr	Ile	Pro	Thr 740	Leu	Thr	Ile	Ser	Ser 745	Asp	Glu	Pro	Glu	Thr 750	Thr	Thr

Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr 760 Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser 795 Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu 805 810 Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe 820 825 Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu 840 Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro 855 Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr 875 Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser 885 890 Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro 900 905 His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr His Pro Ala Val Thr 915 920 925 Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro 935 Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser 945 950 955 Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val Pro Asp Met Val Thr Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr 985 Leu Thr Leu Ser Ser Gly Glu Pro Glu Thr Thr Thr Ser Phe Ile Thr 1000 Tyr Ser Glu Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val 1010 1015 Ser Pro Gly Ala Ser Lys Met Leu Thr Ser Leu Val Ile Ser Ser 1025 1030 Gly Thr Asp Ser Thr Thr The Pro Thr Leu Thr Glu Thr Pro 1045 1050 Tyr Glu Pro Glu Thr Thr Ala Ile Gln Leu Ile His Pro Ala Glu 1055 1060 1065

Thr	Asn 1070	Thr	Met	Val	Pro	Arg 1075	Thr	Thr	Pro	Lys	Phe 1080	Ser	His	Ser
Lys	Ser 1085	Asp	Thr	Thr	Leu	Pro 1090	Val	Ala	Ile	Thr	Ser 1095	Pro	Gly	Pro
Glu	Ala 1100	Ser	Ser	Ala	Val	Ser 1105		Thr	Thr	Ile	Ser 1110	Pro	Asp	Met
Ser	Asp 1115	Leu	Val	Thr	Ser	Leu 1120	Val	Pro	Ser	Ser	Gly 1125	Thr	Asp	Thr
Ser	Thr 1130	Thr	Phe	Pro	Thr	Leu 1135	Ser	Glu	Thr	Pro	Tyr 1140	Glu	Pro	Glu
Thr	Thr 1145	Ala	Thr	Trp	Leu	Thr 1150	His	Pro	Ala	Glu	Thr 1155	Ser	Thr	Thr
Val	Ser 1160	Gly	Thr	Ile	Pro	Asn 1165	Phe	Ser	His	Arg	Gly 1170	Ser	Asp	Thr
Ala	Pro 1175	Ser	Met	Val	Thr	Ser 1180	Pro	Gly	Val	Asp	Thr 1185	Arg	Ser	Gly
Val	Pro 1190	Thr	Thr	Thr	Ile	Pro 1195	Pro	Ser	Ile	Pro	Gly 1200	Val	Val	Thr
Ser	Gln 1205	Val	Thr	Ser	Ser	Ala 1210	Thr	Asp	Thr	Ser	Thr 1215	Ala	Ile	Pro
Thr	Leu 1220	Thr	Pro	Ser	Pro	Gly 1225	Glu	Pro	Glu	Thr	Thr 1230	Ala	Ser	Ser
Ala	Thr 1235	His	Pro	Gly	Thr	Gln 1240	Thr	Gly	Phe	Thr	Val 1245	Pro	Ile	Arg
Thr	Val 1250	Pro	Ser	Ser	Glu	Pro 1255	Asp	Thr	Met	Ala	Ser 1260	Trp	Val	Thr
His	Pro 1265			Thr		Thr 1270	Pro	Val	Ser	Arg	Thr 1275	Thr	Ser	Ser
Phe	Ser 1280	His	Ser	Ser	Pro	Asp 1285	Ala	Thr	Pro	Val	Met 1290	Ala	Thr	Ser
Pro	Arg 1295	Thr	Glu	Ala	Ser	Ser 1300	Ala	Val	Leu	Thr	Thr 1305	Ile	Ser	Pro
Gly	Ala 1310	Pro	Glu	Met	Val	Thr 1315	Ser	Gln	Ile	Thr	Ser 1320	Ser	Gly	Ala
Ala	Thr 1325	Ser	Thr	Thr	Val	Pro 1330	Thr	Leu	Thr	His	Ser 1335	Pro	Gly	Met
Pro	Glu 1340	Thr	Thr	Ala	Leu	Leu 1345	Ser	Thr	His	Pro	Arg 1350	Thr	Glu	Thr
Ser	Lys	Thr	Phe	Pro	Ala	Ser	Thr	Val	Phe	Pro	Gln	Val	Ser	Glu

	1355					1360					1365			
Thr	Thr 1370		Ser	Leu	Thr	Ile 1375		Pro	Gly	Ala	Glu 1380		Ser	Thr
Ala	Leu 1385		Thr	Gln	Thr	Thr 1390		Ser	Leu	Phe	Thr 1395		Leu	Val
Thr	Gly 1400		Ser	Arg	Val	Asp 1405		Ser	Pro	Thr	Ala 1410		Pro	Gly
Val	Ser 1415		Lys	Thr	Ala	Pro 1420		Ser	Thr	His	Pro 1425		Thr	Glu
Thr	Ser 1430		Met	Ile	Pro	Thr 1435		Thr	Leu	Ser	Leu 1440	Gly	Leu	Leu
Glu	Thr 1445	Thr	Gly	Leu	Leu	Ala 1450	Thr	Ser	Ser	Ser	Ala 1455	Glu	Thr	Ser
Thr	Ser 1460	Thr	Leu	Thr	Leu	Thr 1465	Val	Ser	Pro	Ala	Val 1470	Ser	Gly	Leu
Ser	Ser 1475	Ala	Ser	Ile	Thr	Thr 1480		Lys	Pro	Gln	Thr 1485	Val	Thr	Ser
Trp	Asn 1490	Thr	Glu	Thr	Ser	Pro 1495	Ser	Val	Thr	Ser	Val 1500	Gly	Pro	Pro
Glu	Phe 1505	Ser	Arg	Thr	Val	Thr 1510	Gly	Thr	Thr	Met	Thr 1515	Leu	Ile	Pro
Ser	Glu 1520	Met	Pro	Thr	Pro	Pro 1525	Lys	Thr	Ser	His	Gly 1530	Glu	Gly	Val
Ser	Pro 1535	Thr	Thr	Ile	Leu	Arg 1540	Thr	Thr	Met	Val	Glu 1545	Ala	Thr	Asn
Leu	Ala 1550	Thr	Thr	Gly	Ser	Ser 1555	Pro	Thr	Val	Ala	Lys 1560	Thr	Thr	Thr
Thr	Phe 1565	Asn	Thr	Leu	Ala	Gly 1570	Ser	Leu	Phe	Thr	Pro 1575	Leu	Thr	Thr
Pro	Gly 1580	Met	Ser	Thr	Leu	Ala 1585	Ser	Glu	Ser	Val	Thr 1590	Ser	Arg	Thr
Ser	Tyr 1595	Asn	His	Arg	Ser	Trp 1600	Ile	Ser	Thr	Thr	Ser 1605	Ser	Tyr	Asn
Arg	Arg 1610	Tyr	Trp	Thr	Pro	Ala 1615	Thr	Ser	Thr	Pro	Val 1620	Thr	Ser	Thr
Phe	Ser 1625	Pro	Gly	Ile	Ser	Thr 1630	Ser	Ser	Ile	Pro	Ser 1635	Ser	Thr	Ala
Ala	Thr 1640	Val	Pro	Phe	Met	Val 1645	Pro	Phe	Thr	Leu	Asn 1650	Phe	Thr	Ile

Thr	Asn 1655	Leu	Gln	Tyr	Glu	Glu 1660	Asp	Met	Arg	His	Pro 1665	Gly	Ser	Arg
Lys	Phe 1670	Asn	Ala	Thr	Glu	Arg 1675	Glu	Leu	Gln	Gly	Leu 1680	Leu	Lys	Pro
Leu	Phe 1685	Arg	Asn	Ser	Ser	Leu 1690	Glu	Tyr	Leu	Tyr	Ser 1695	Gly	Cys	Arg
Leu	Ala 1700	Ser	Leu	Arg	Pro	Glu 1705	Lys	Asp	Ser	Ser	Ala 1710	Met	Ala	Val
Asp	Ala 1715	Ile	Cys	Thr	His	Arg 1720	Pro	Asp	Pro	Glu	Asp 1725	Leu	Gly	Leu
Asp	Arg 1730	Glu	Arg	Leu	Tyr	Trp 1735	Glu	Leu	Ser	Asn	Leu 1740	Thr	Asn	Gly
Ile	Gln 1745		Leu	Gly	Pro	Tyr 1750		Leu	Asp	Arg	Asn 1755	Ser	Leu	Tyr
Val	Asn 1760	Gly	Phe	Thr	His	Arg 1765		Ser	Met	Pro	Thr 1770	Thr	Ser	Thr
Pro	Gly 1775	Thr	Ser	Thr	Val	Asp 1780		Gly	Thr	Ser	Gly 1785	Thr	Pro	Ser
Ser	Ser 1790		Ser	Pro	Thr	Ala 1795	Ala	Gly	Pro	Leu	Leu 1800	Met	Pro	Phe
Thr	Leu 1805		Phe	Thr	Ile	Thr 1810		Leu	Gln	Tyr	Glu 1815	Glu	Asp	Met
Arg	Arg 1820		Gly	Ser	Arg	Lys 1825		Asn	Thr	Met	Glu 1830	Ser	Val	Leu
Gln	Gly 1835		Leu	Lys	Pro	Leu 1840		Lys	Asn	Thr	Ser 1845	Val	Gly	Pro
Leu	Tyr 1850	Ser				Leu 1855						Glu	Lys	Asp
Gly	Ala 1865		Thr	Gly	Val	Asp 1870		Ile	Cys	Thr	His 1875	Arg	Leu	Asp
Pro	Lys 1880		Pro	Gly	Leu	Asn 1885		Glu	Gln	Leu	Tyr 1890	Trp	Glu	Leu
Ser	Lys 1895		Thr	Asn	Asp	1900		Glu	Leu	Gly	Pro 1905		Thr	Leu
Asp	Arg 1910		Ser	Leu	Tyr	Val 1915		n Gly	, Phe	Thr	His 1920	Gln	Ser	Ser
Val	Ser 1925		Thr	Ser	Thr	Pro 1930		/ Thr	Ser	Thr	Val 1935	Asp	Leu	Arg
Thr	Ser 1940		Thr	Pro	Ser	Ser 1945		ı Ser	Ser	Pro	Thr 1950		Met	Ala

Ala	Gly 1955	Pro	Leu	Leu	Val	Pro 1960	Phe	Thr	Leu	Asn	Phe 1965	Thr	Ile	Thr
Asn	Leu 1970	Gln	Tyr	Gly	Glu	Asp 1975	Met	Gly	His	Pro	Gly 1980	Ser	Arg	Lys
Phe	Asn 1985	Thr	Thr	Glu	Arg	Val 1990	Leu	Gln	Gly	Leu	Leu 1995	Gly	Pro	Ile
Phe	Lys 2000	Asn	Thr	Ser	Val	Gly 2005	Pro	Leu	Tyr	Ser	Gly 2010	Cys	Arg	Leu
Thr	Ser 2015	Leu	Arg	Ser	Glu	Lys 2020	Asp	Gly	Ala	Ala	Thr 2025	Gly	Val	Asp
Ala	Ile 2030	Cys	Ile	His	His	Leu 2035	Asp	Pro	Lys	Ser	Pro 2040	Gly	Leu	Asn
Arg	Glu 2045	Arg	Leu	Tyr	Trp	Glu 2050	Leu	Ser	Gln	Leu	Thr 2055	Asn	Gly	Ile
Lys	Glu 2060	Leu	Gly	Pro	Tyr	Thr 2065	Leu	Asp	Arg	Asn	Ser 2070	Leu	Tyr	Val
Asn	Gly 2075	Phe	Thr	His	Arg	Thr 2080	Ser	Val	Pro	Thr	Ser 2085	Ser	Thr	Pro
Gly	Thr 2090	Ser	Thr	Val	Asp	Leu 2095	Gly	Thr	Ser	Gly	Thr 2100	Pro	Phe	Ser
Leu	Pro 2105	Ser	Pro	Ala	Thr	Ala 2110	Gly	Pro	Leu	Leu	Val 2115	Leu	Phe	Thr
Leu	Asn 2120	Phe	Thr	Ile	Thr	Asn 2125	Leu	Lys	Tyr	Glu	Glu 2130	Asp	Met	His
Arg	Pro 2135	Gly	Ser	Arg	Lys	Phe 2140	Asn	Thr	Thr	Glu	Arg 2145	Val	Leu	Gln
Thr	Leu 2150		Gly	Pro	Met	Phe 2155	Lys	Asn	Thr	Ser	Val 2160	Gly	Leu	Leu
Tyr	Ser 2165	_	Cys	Arg	Leu	Thr 2170	Leu	Leu	Arg	Ser	Glu 2175	Lys	Asp	Gly
Ala	Ala 2180		Gly	Val	Asp	Ala 2185	Ile	Cys	Thr	His	Arg 2190	Leu	Asp	Pro
Lys	Ser 2195		Gly	Leu	Asp	Arg 2200	Glu	Gln	Leu	Tyr	Trp 2205	Glu	Leu	Ser
Gln	Leu 2210		Asn	Gly	Ile	Lys 2215	Glu	Leu	Gly	Pro	Tyr 2220	Thr	Leu	Asp
Arg	Asn 2225		Leu	Tyr	Val	Asn 2230	Gly	Phe	Thr	His	Trp 2235	Ile	Pro	Val
Pro	Thr	Ser	Ser	Thr	Pro	Gly	Thr	Ser	Thr	Val	Asp	Leu	Gly	Ser

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Leu	Val 2270	Pro	Phe	Thr	Leu	Asn 2275	Phe	Thr	Ile	Thr	Asn 2280	Leu	Gln	Tyr
Glu	Glu 2285	Asp	Met	His	His	Pro 2290	Gly	Ser	Arg	Lys	Phe 2295	Asn	Thr	Thr
Glu	Arg 2300	Val	Leu	Gln	Gly	Leu 2305	Leu	Gly	Pro	Met	Phe 2310	Lys	Asn	Thr
Ser	Val 2315	Gly	Leu	Leu	Tyr	Ser 2320	Gly	Cys	Arg	Leu	Thr 2325	Leu	Leu	Arg
Ser	Glu 2330	Lys	Asp	Gly	Ala	Ala 2335	Thr	Gly	Val	Asp	Ala 2340	Ile	Cys	Thr
His	Arg 2345	Leu	Asp	Pro	Lys	Ser 2350	Pro	Gly	Val	Asp	Arg 2355	Glu	Gln	Leu
Tyr	Trp 2360	Glu	Leu	Ser	Gln	Leu 2365	Thr	Asn	Gly	Ile	Lys 2370	Glu	Leu	Gly
Pro	Tyr 2375	Thr	Leu	Asp	Arg	Asn 2380	Ser	Leu	Tyr	Val	Asn 2385	Gly	Phe	Thr
His	Gln 2390	Thr	Ser	Ala		Asn 2395	Thr	Ser	Thr	Pro	Gly 2400	Thr	Ser	Thr
Val	Asp 2405	Leu	Gly	Thr	Ser	Gly 2410	Thr	Pro	Ser	Ser	Leu 2415	Pro	Ser	Pro
Thr	Ser 2 4 20	Ala	Gly	Pro	Leu	Leu 2425	Val	Pro	Phe	Thr	Leu 2430	Asn	Phe	Thr
Ile	Thr 2435	Asn	Leu	Gln	Tyr	Glu 2440	Glu	Asp	Met	Arg	His 2445	Pro	Gly	Ser
Arg	Lys 2450	Phe	Asn	Thr	Thr	Glu 2455	Arg	Val	Leu	Gln	Gly 2460	Leu	Leu	Lys
Pro	Leu 2465	Phe	Lys	Ser	Thr	Ser 2470	Val	Gly	Pro	Leu	Tyr 2475	Ser	Gly	Cys
Arg	Leu 2480	Thr	Leu	Leu	Arg	Ser 2485	Glu	Lys	Asp	Gly	Ala 2490	Ala	Thr	Gly
Val	Asp 2495	Ala	Ile	Cys	Thr	His 2500	Arg	Leu	Asp	Pro	Lys 2505	Ser	Pro	Gly
Val	Asp 2510	Arg	Glu	Gln	Leu	Tyr 2515	Trp	Glu	Leu	Ser	Gln 2520	Leu	Thr	Asn
Gly	Ile 2525	Lys	Glu	Leu	Gly	Pro 2530	Tyr	Thr	Leu	Asp	Arg 2535	Asn	Ser	Leu

Tyr	Val 25 4 0	Asn	Gly	Phe	Thr	His 2545	Gln	Thr	Ser	Ala	Pro 2550	Asn	Thr	Ser
Thr	Pro 2555	Gly	Thr	Ser	Thr	Val 2560		Leu	Gly		Ser 2565	Gly	Thr	Pro
Ser	Ser 2570	Leu	Pro	Ser	Pro	Thr 2575	Ser	Ala	Gly	Pro	Leu 2580	Leu	Val	Pro
Phe	Thr 2585	Leu	Asn	Phe	Thr	Ile 2590	Thr	Asn	Leu	Gln	Tyr 2595	Glu	Glu	Asp
Met	His 2600	His	Pro	Gly	Ser	Arg 2605	Lys	Phe	Asn	Thr	Thr 2610	Glu	Arg	Val
Leu	Gln 2615	Gly	Leu	Leu	Gly	Pro 2620	Met	Phe	Lys	Asn	Thr 2625	Ser	Val	Gly
Leu	Leu 2630	_	Ser	Gly	Cys	Arg 2635		Thr	Leu	Leu	Arg 2640	Pro	Glu	Lys
Asn	Gly 2645	Ala	Ala	Thr	Gly	Met 2650	Asp	Ala	Ile	Суѕ	Ser 2655	His	Arg	Leu
Asp	Pro 2660		Ser	Pro	Gly	Leu 2665	Asn	Arg	Glu	Gln	Leu 2670	Tyr	Trp	Glu
Leu	Ser 2675		Leu	Thr	His	Gly 2680		Lys	Glu	Leu	Gly 2685	Pro	Tyr	Thr
Leu	Asp 2690		Asn	Ser	Leu	Tyr 2695	Val	Asn	Gly	Phe	Thr 2700	His	Arg	Ser
Ser	Val 2705		Pro	Thr	Ser	Thr 2710		Gly	Thr	Ser	Thr 2715	Val	Asp	Leu
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Val	Pro 2735										Thr 2745		Thr	Asn
Leu	Gln 2750	_	Gly	Glu	Asp	Met 2755		His	Pro	Gly	Ser 2760		Lys	Phe
Asn	Thr 2765		Glu	Arg	Val	Leu 2770		Gly	Leu	Leu	Gly 2775	Pro	Leu	Phe
Lys	Asn 2780		Ser	Val	Gly	Pro 2785		Tyr	Ser	Gly	Cys 2790		Leu	Ile
Ser	Leu 2795		Ser	Glu	Lys	Asp 2800		Ala	Ala	Thr	Gly 2805		Asp	Ala
Ile	Cys 2810		His	His	Leu	Asn 2815		Gln	Ser	Pro	Gly 2820		Asp	Arg
Glu	Gln 2825		Tyr	Trp	Gln	Leu 2830		Gln	Met	Thr	Asn 2835	Gly	Ile	Lys

Glu	Leu 2840	Gly	Pro	Tyr	Thr	Leu 2845	_	Arg	Asn	Ser	Leu 2850	Tyr	Val	Asn
Gly	Phe 2855	Thr	His	Arg	Ser	Ser 2860	Gly	Leu	Thr	Thr	Ser 2865	Thr	Pro	Trp
Thr	Ser 2870	Thr	Val	Asp	Leu	Gly 2875	Thr	Ser	Gly	Thr	Pro 2880	Ser	Pro	Val
Pro	Ser 2885	Pro	Thr	Thr	Ala	Gly 2890	Pro	Leu	Leu	Val	Pro 2895	Phe	Thr	Leu
Asn	Phe 2900	Thr	Ile	Thr	Asn	Leu 2905	Gln	Tyr	Glu	Glu	Asp 2910	Met	His	Arg
Pro	Gly 2915	Ser	Arg	Lys	Phe	Asn 2920		Thr	Glu	Arg	Val 2925	Leu	Gln	Gly
Leu	Leu 2930	Ser	Pro	Ile	Phe	Lys 2935	Asn	Ser	Ser	Val	Gly 2940	Pro	Leu	Tyr
Ser	Gly 2945	Cys	Arg	Leu	Thr	Ser 2950	Leu	Arg	Pro	Glu	Lys 2955	Asp	Gly	Ala
Ala	Thr 2960	Gly	Met	Asp	Ala	Val 2965	Cys	Leu	Tyr	His	Pro 2970	Asn	Pro	Lys
Arg	Pro 2975	Gly	Leu	Asp	Arg	Glu 2980	Gln	Leu	Tyr	Trp	Glu 2985	Leu	Ser	Gln
Leu	Thr 2990	His	Asn	Ile		Glu 2995	Leu	Gly	Pro	Tyr	Ser 3000	Leu	Asp	Arg
Asp	Ser 3005	Leu	Tyr	Val	Asn	Gly 3010	Phe	Thr	His	Gln	Asn 3015	Ser	Val	Pro
Thr	Thr 3020	Ser	Thr	Pro	Gly	Thr 3025	Ser	Thr	Val	Tyr	Trp 3030	Ala	Thr	Thr
Gly	Thr 3035	Pro	Ser	Ser	Phe	Pro 3040	_		Thr		Pro 3045	Gly	Pro	Leu
Leu	Ile 3050	Pro	Phe	Thr	Phe	Asn 3055	Phe	Thr	Ile	Thr	Asn 3060	Leu	His	Tyr
Glu	Glu 3065	Asn	Met	Gln	His	Pro 3070	Gly	Ser	Arg	Lys	Phe 3075	Asn	Thr	Thr
Glu	Arg 3080	Val	Leu	Gln	Gly	Leu 3085	Leu	Lys	Pro	Leu	Phe 3090	Lys	Asn	Thr
Ser	Val 3095	Gly	Pro	Leu	Tyr	Ser 3100	Gly	Cys	Arg	Leu	Thr 3105	Ser	Leu	Arg
Pro	Glu 3110	Lys	Asp	Gly	Ala	Ala 3115	Thr	Gly	Met	Asp	Ala 3120	Val	Cys	Leu
Tyr	His	Pro	Asn	Pro	Lys	Arg	Pro	Gly	Leu	Asp	Arg	Glu	Gln	Leu

	3125					3130					3135			
Tyr	Cys 3140	Glu	Leu	Ser	Gln	Leu 3145		His	Asn	Ile	Thr 3150		Leu	Gly
Pro	Tyr 3155		Leu	Asp	Arg	Asp 3160		Leu	Tyr ,	Val	Asn 3165		Phe	Thr
His	Gln 3170		Ser	Val	Pro	Thr 3175		Ser	Thr	Pro	Gly 3180		Ser	Thr
Val	Tyr 3185		Ala	Thr	Thr	Gly 3190		Pro	Ser	Ser	Phe 3195		Gly	His
Thr	Glu 3200		Gly	Pro	Leu	Leu 3205		Pro	Phe	Thr	Phe 3210	Asn	Phe	Thr
Ile	Thr 3215		Leu	His	Tyr	Glu 3220		Asn	Met	Gln	His 3225		Gly	Ser
Arg	Lys 3230	Phe	Asn	Thr	Thr	Glu 3235		Val	Leu	Gln	Gly 3240	Leu	Leu	Lys
Pro	Leu 3245		Lys	Asn	Thr	Ser 3250	Val	Gly	Pro	Leu	Tyr 3255	Ser	Gly	Cys
Arg	Leu 3260		Leu	Leu	Arg	Pro 3265		Lys	His	Glu	Ala 3270	Ala	Thr	Gly
Val	Asp 3275	Thr	Ile	Cys	Thr	His 3280	Arg	Val	Asp	Pro	Ile 3285	Gly	Pro	Gly
Leu	Asp 3290	Arg	Glu	Arg	Leu	Tyr 3295	Trp	Glu	Leu		Gln 3300	Leu	Thr	Asn
Ser	Ile 3305	Thr	Glu	Leu	Gly	Pro 3310	Tyr	Thr	Leu	Asp	Arg 3315	Asp	Ser	Leu
Tyr	Val 3320	Asn	Gly	Phe	Asn	Pro 3325	Arg	Ser	Ser	Val	Pro 3330	Thr	Thr	Ser
Thr	Pro 3335	Gly	Thr	Ser	Thr	Val 3340	His	Leu	Ala	Thr	Ser 3345	Gly	Thr	Pro
Ser	Ser 3350	Leu	Pro	Gly	His	Thr 3355	Ala	Pro	Val	Pro	Leu 3360	Leu	Ile	Pro
Phe	Thr 3365	Leu	Asn	Phe	Thr	Ile 3370	Thr	Asn	Leu	His	Tyr 3375	Glu	Glu	Asn
Met	Gln 3380	His	Pro	Gly	Ser	Arg 3385	Lys	Phe	Asn	Thr	Thr 3390	Glu	Arg	Val
Leu	Gln 3395	Gly	Leu	Leu	Lys	Pro 3400	Leu	Phe	Lys	Asn	Thr 3405	Ser	Val	Gly
Pro	Leu 3410	Tyr	Ser	Gly	Cys	Arg 3415	Leu	Thr	Leu	Leu	Arg 3420	Pro	Glu	Lys

His	Glu 3425	Ala	Ala	Thr	Gly	Val 3430	_	Thr	Ile	Cys	Thr 3435		Arg	Val
Asp	Pro 3440	Ile	Gly	Pro	Gly	Leu 3445	_	Arg	Glu	Xaa	Leu 3450	Tyr	Trp	Glu
Leu	Ser 3455	Xaa	Leu	Thr	Xaa	Xaa 3460		Xaa	Glu	Leu	Gly 3465	Pro	Tyr	Xaa
Leu	Asp 3470		Xaa	Ser	Leu	Tyr 3475		Asn	Gly	Phe	Xaa 3480		Xaa	Xaa
Xaa	Xaa 3485	Xaa	Xaa	Thr	Ser	Thr 3490	Pro	Gly	Thr	Ser	Xaa 3495	Val	Xaa	Leu
Xaa	Thr 3500	Ser	Gly	Thr	Pro	Xaa 3505	Xaa	Xaa	Pro	Xaa	Xaa 3510	Thr	Ser	Ala
Gly	Pro 3515	Leu	Leu	Val	Pro	Phe 3520		Leu	Asn	Phe	Thr 3525		Thr	Asn
Leu	Gln 3530	Tyr	Glu	Glu	Asp	Met 3535	His	His	Pro	Gly	Ser 3540	Arg	Lys	Phe
Asn	Thr 3545	Thr	Glu	Arg	Val	Leu 3550	Gln	Gly	Leu	Leu	Gly 3555	Pro	Met	Phe
Lys	Asn 3560	Thr	Ser	Val	Gly	Leu 3565		Tyr	Ser	Gly	Cys 3570	Arg	Leu	Thr
Leu	Leu 3575	Arg	Pro	Glu	Lys	Asn 3580	Gly	Ala	Ala	Thr	Gly 3585	Met	Asp	Ala
Ile	Cys 3590	Ser	His	Arg	Leu	Asp 3595	Pro	Lys	Ser	Pro	Gly 3600	Leu	Asp	Arg
Glu	Gln 3605	Leu	Tyr	Trp	Glu	Leu 3610	Ser	Gln	Leu	Thr	His 3615	Gly	Ile	Lys
Glu											Leu 3630		Val	Asn
Gly	Phe 3635	Thr	His	Arg	Ser	Ser 3640	Val	Ala	Pro	Thr	Ser 3645	Thr	Pro	Gly
Thr	Ser 3650	Thr	Val	Asp	Leu	Gly 3655	Thr	Ser	Gly	Thr	Pro 3660	Ser	Ser	Leu
Pro	Ser 3665	Pro	Thr	Thr	Ala	Val 3670	Pro	Leu	Leu	Val	Pro 3675	Phe	Thr	Leu
Asn	Phe 3680	Thr	Ile	Thr	Asn	Leu 3685	Gln	Tyr	Gly	Glu	Asp 3690	Met	Arg	His
Pro	Gly 3695	Ser	Arg	Lys	Phe	Asn 3700	Thr	Thr	Glu	Arg	Val 3705	Leu	Gln	Gly
Leu	Leu 3710	Gly	Pro	Leu	Phe	Lys 3715	Asn	Ser	Ser	Val	Gly 3720	Pro	Leu	Tyr

Ser	Gly 3725	Cys	Arg	Leu	Ile	Ser 3730	Leu	Arg	Ser	Glu	Lys 3735	Asp	Gly	Ala
Ala	Thr 3740	Gly	Val	Asp	Ala	Ile 3745	Cys	Thr	His	His	Leu 3750	Asn	Pro	Gln
Ser	Pro 3755	Gly	Leu	Asp	Arg	Glu 3760	Gln	Leu	Tyr	Trp	Gln 3765	Leu	Ser	Gln
Met	Thr 3770	Asn	Gly	Ile	Lys	Glu 3775	Leu	Gly	Pro	Tyr	Thr 3780	Leu	Asp	Arg
Asn	Ser 3785	Leu	Tyr	Val	Asn	Gly 3790	Phe	Thr	His	Arg	Ser 3795	Ser	Gly	Leu
Thr	Thr 3800	Ser	Thr	Pro	Trp	Thr 3805	Ser	Thr	Val	Asp	Leu 3810	Gly	Thr	Ser
Gly	Thr 3815	Pro	Ser	Pro	Val	Pro 3820	Ser	Pro	Thr	Thr	Ala 3825	Gly	Pro	Leu
Leu	Val 3830	Pro	Phe	Thr	Leu	Asn 3835	Phe	Thr	Ile	Thr	Asn 3840	Leu	Gln	Tyr
Glu	Glu 3845	Asp	Met	His	Arg	Pro 3850	Gly	Ser	Arg	Lys	Phe 3855	Asn	Ala	Thr
Glu	Arg 3860	Val	Leu	Gln	Gly	Leu 3865	Leu	Ser	Pro	Ile	Phe 3870	Lys	Asn	Ser
Ser	Val 3875	Gly	Pro	Leu	Tyr	Ser 3880	Gly	Cys	Arg	Leu	Thr 3885	Ser	Leu	Arg
Pro	Glu 3890	Lys	Asp	Gly	Ala	Ala 3895	Thr	Gly	Met	Asp	Ala 3900	Val	Cys	Leu
Tyr	His 3905	Pro	Asn	Pro	Lys	Arg 3910	Pro	Gly	Leu	Asp	Arg 3915	Glu	Gln	Leu
Tyr	Trp 3920	Glu	Leu	Ser	Gln	Leu 3925	Thr	His	Asn	Ile	Thr 3930	Glu	Leu	Gly
Pro	Tyr 3935	Ser	Leu	Asp	Arg	Asp 3940	Ser	Leu	Tyr	Val	Asn 3945	Gly	Phe	Thr
His	Gln 3950	Ser	Ser	Met	Thr	Thr 3955	Thr	Arg	Thr	Pro	Asp 3960	Thr	Ser	Thr
Met	His 3965	Leu	Ala	Thr	Ser	Arg 3970	Thr	Pro	Ala	Ser	Leu 3975	Ser	Gly	Pro
Thr	Thr 3980	Ala	Ser	Pro	Leu	Leu 3985	Val	Leu	Phe	Thr	Ile 3990	Asn	Cys	Thr
Ile	Thr 3995	Asn	Leu	Gln	Tyr	Glu 4000	Glu	Asp	Met	Arg	Arg 4005	Thr	Gly	Ser
Arg	Lys	Phe	Asn	Thr	Met	Glu	Ser	Val	Leu	Gln	Gly	Leu	Leu	Lys

	4010					4015					4020			
Pro	Leu 4025	Phe	Lys	Asn	Thr	Ser 4030	Val	Gly	Pro	Leu	Tyr 4035	Ser	Gly	Cys
Arg	Leu 4040	Thr	Leu	Leu	Arg	Pro 4045	Lys	Lys	Asp	Gly	Ala 4050	Ala	Thr	Gly
Val	Asp 4055	Ala	Ile	Cys	Thr	His 4060	Arg	Leu	Asp	Pro	Lys 4065	Ser	Pro	Gly
Leu	Asn 4070	Arg	Glu	Gln	Leu	Tyr 4075	Trp	Glu	Leu	Ser	Lys 4080	Leu	Thr	Asn
Asp	Ile 4085	Glu	Glu	Leu	Gly	Pro 4090	Tyr	Thr	Leu	Asp	Arg 4095	Asn	Ser	Leu
Tyr	Val 4100	Asn	Gly	Phe	Thr	His 4105	Gln	Ser	Ser	Val	Ser 4110	Thr	Thr	Ser
Thr	Pro 4115	Gly	Thr	Ser	Thr	Val 4120	Asp	Leu	Arg	Thr	Ser 4125	Gly	Thr	Pro
Ser	Ser 4130	Leu	Ser	Ser	Pro	Thr 4135	Ile	Met	Xaa	Xaa	Xaa 4140	Pro	Leu	Leu
Xaa	Pro 4145	Phe	Thr	Leu	Asn	Phe 4150	Thr	Ile	Thr	Asn	Leu 4155	Xaa	Tyr	Glu
Glu	Xaa 4160	Met	Xaa	Xaa	Pro	Gly 4165	Ser	Arg	Lys	Phe	Asn 4170	Thr	Thr	Glu
Arg	Val 4175	Leu	Gln	Gly	Leu	Leu 4180	Arg	Pro	Leu	Phe	Lys 4185	Asn	Thr	Ser
Val	Ser 4190	Ser	Leu	Tyr	Ser	Gly 4195	Cys	Arg	Leu	Thr	Leu 4200	Leu	Arg	Pro
Glu	Lys 4205	Asp	Gly	Ala	Ala	Thr 4210	Arg	Val	Asp	Ala	Ala 4215	Cys	Thr	Tyr
Arg	Pro 4220	Asp	Pro	Lys	Ser	Pro 4225	Gly	Leu	Asp	Arg	Glu 4230	Gln	Leu	Tyr
Trp	Glu 4235		Ser	Gln	Leu	Thr 4240	His	Ser	Ile	Thr	Glu 4245	Leu	Gly	Pro
Tyr	Thr 4250		Asp	Arg	Val	Ser 4255	Leu	Tyr	Val	Asn	Gly 4260	Phe	Asn	Pro
Arg	Ser 4265		Val	Pro	Thr	Thr 4270	Ser	Thr	Pro	Gly	Thr 4275	Ser	Thr	Val
His	Leu 4280	Ala	Thr	Ser	Gly	Thr 4285	Pro	Ser	Ser	Leu	Pro 4290	Gly	His	Thr
Xaa	Xaa 4295	Xaa	Pro	Leu	Leu	Xaa 4300	Pro	Phe	Thr	Leu	Asn 4305	Phe	Thr	Ile

Thr	Asn 4310	Leu	Xaa	Tyr	Glu	Glu 4315	Xaa	Met	Xaa	Xaa	Pro 4320	Gly	Ser	Arg
Lys	Phe 4325	Asn	Thr	Thr	Glu	Arg 4330	Val	Leu	Gln	Gly	Leu 4335	Leu	Lys	Pro
Leu	Phe 4340	Arg	Asn	Ser	Ser	Leu 4345	Glu	Tyr	Leu	Tyr	Ser 4350	Gly	Cys	Arg
Leu	Ala 4355	Ser	Leu	Arg	Pro	Glu 4360	Lys	Asp	Ser	Ser	Ala 4365	Met	Ala	Val
Asp	Ala 4370	Ile	Cys	Thr	His	Arg 4375	Pro	Asp	Pro	Glu	Asp 4380	Leu	Gly	Leu
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Ile	Gln 4400	Glu	Leu	Gly	Pro	Tyr 4405	Thr	Leu	Asp	Arg	Asn 4410	Ser	Leu	Tyr
Val	Asn 4415	Gly	Phe	Thr	His	Arg 4420	Ser	Ser	Phe	Leu	Thr 4425	Thr	Ser	Thr
Pro	Trp 4430	Thr	Ser	Thr	Val	Asp 4435	Leu	Gly	Thr	Ser	Gly 4440	Thr	Pro	Ser
Pro	Val 4445	Pro	Ser	Pro	Thr	Thr 4450	Ala	Gly	Pro	Leu	Leu 4455	Val	Pro	Phe
Thr	Leu 4460	Asn	Phe	Thr	Ile	Thr 4465	Asn	Leu	Gln	Tyr	Glu 4470	Glu	Asp	Met
His	Arg 4475	Pro	Gly	Ser	Arg	Arg 4480	Phe	Asn	Thr	Thr	Glu 4485	Arg	Val	Leu
Gln	Gly 4490	Leu	Leu	Thr	Pro	Leu 4495	Phe	Lys	Asn	Thr	Ser 4500	Val	Gly	Pro
Leu	Tyr 4505										Pro 4515	Glu	Lys	Gln
Glu	Ala 4520	Ala	Thr	Gly	Val	Asp 4525	Thr	Ile	Cys	Thr	His 4530	Arg	Val	Asp
Pro	Ile 4535	Gly	Pro	Gly	Leu	Asp 4540	Arg	Glu	Arg	Leu	Tyr 4545	Trp	Glu	Leu
Ser	Gln 4550	Leu	Thr	Asn	Ser	Ile 4555	Thr	Glu	Leu	Gly	Pro 4560	Tyr	Thr	Leu
Asp	Arg 4565	Asp	Ser	Leu	Tyr	Val 4570	Asn	Gly	Phe	Asn	Pro 4575	Trp	Ser	Ser
U = 1		Thr	Thr	Ser	Thr	Pro	Gly	Thr	Ser	Thr	Val	His	Leu	Ala
vai	Pro 4580	1111	1111	501		4585	_				4590			

	Pro	Leu 4610	Leu	Ile	Pro	Phe	Thr 4615	Leu	Asn	Phe	Thr	Ile 4620		Asp	Leu
	His	Tyr 4625	Glu	Glu	Asn	Met	Gln 4630		Pro	Gly	Ser	Arg 4635	Lys	Phe	Asn
	Thr	Thr 4640	Glu	Arg	Val	Leu	Gln 4645		Leu	Leu	Lys	Pro 4650		Phe	Lys
	Ser	Thr 4655	Ser	Val	Gly	Pro	Leu 4660	Tyr	Ser	Gly	Cys	Arg 4665	Leu	Thr	Leu
	Leu	Arg 4670	Pro	Glu	Lys	His	Gly 4675		Ala	Thr	Gly	Val 4680	Asp	Ala	Ile
	Cys	Thr 4685	Leu	Arg	Leu	Asp	Pro 4690		Gly	Pro	Gly	Leu 4695	Asp	Arg	Glu
	Arg	Leu 4700	Tyr	Trp	Glu	Leu	Ser 4705	Gln	Leu	Thr	Asn	Ser 4710	Val	Thr	Glu
	Leu	Gly 4715	Pro	Tyr	Thr	Leu	Asp 4720	Arg	Asp	Ser	Leu	Tyr 4725	Val	Asn	Gly
	Phe	Thr 4730	His	Arg	Ser	Ser	Val 4735	Pro	Thr	Thr	Ser	Ile 4740	Pro	Gly	Thr
	Ser	Ala 4745	Val	His	Leu	Glu	Thr 4750	Ser	Gly	Thr	Pro	Ala 4755	Ser	Leu	Pro
	Gly	His 4760	Thr	Ala	Pro		Pro 4765	Leu	Leu	Val	Pro	Phe 4770	Thr	Leu	Asn
		4775					Gln 4780					4785			
		4790					Thr 4795					4800			
	Leu	Lys 4805			Phe		Asn 4810	Thr			Ser	Ser 4815	Leu	Tyr	Ser
(Gly	Cys 4820	Arg	Leu	Thr	Leu	Leu 4825	Arg	Pro	Glu	Lys	Asp 4830	Gly	Ala	Ala
•	Thr	Arg 4835	Val	Asp	Ala	Val	Cys 4840	Thr	His	Arg	Pro	Asp 4845	Pro	Lys	Ser
	Pro	Gly 4850	Leu	Asp	Arg	Glu	Arg 4855	Leu	Tyr	Trp	Lys	Leu 4860	Ser	Gln	Leu
•	Thr	His 4865	Gly	Ile	Thr	Glu	Leu 4870	Gly	Pro	Tyr	Thr	Leu 4875	Asp	Arg	His
	Ser	Leu 4880	Tyr	Val	Asn	Gly	Phe 4885	Thr	His	Gln	Ser	Ser 4890	Met	Thr	Thr
-	Thr	Arg	Thr	Pro	Asp	Thr	Ser	Thr	Met	His	Leu	Ala	Thr	Ser	Arg

	4895					4900					4905			
Thr	Pro 4910		Ser	Leu	Ser	Gly 4915		Thr	Thr	Ala	Ser 4920		Leu	Leu
Val	Leu 4925		Thr	Ile		Phe 4930		Ile	Thr	Asn	Gln 4935	_	Tyr	Glu
Glu	Asn 4940		His	His	Pro	Gly 4945		Arg	Lys	Phe	Asn 4950		Thr	Glu
Arg	Val 4955		Gln	Gly	Leu	Leu 4960		Pro	Val	Phe	Lys 4965		Thr	Ser
Val	Gly 4970		Leu	Tyr	Ser	Gly 4975		Arg	Leu	Thr	Leu 4980		Arg	Pro
Lys	Lys 4985		Gly	Ala	Ala	Thr 4990		Val	Asp	Ala	Ile 4995		Thr	Tyr
Arg	Pro 5000		Pro	Lys	Ser	Pro 5005		Leu	Asp	Arg	Glu 5010		Leu	Tyr
Trp	Glu 5015		Ser	Gln	Leu	Thr 5020		Ser	Ile	Thr	Glu 5025	Leu	Gly	Pro
Tyr	Thr 5030		Asp	Arg	Asp	Ser 5035		Tyr	Val	Asn	Gly 5040	Phe	Thr	His
Arg	Ser 5045	Ser	Val	Pro	Thr	Thr 5050		Ile	Pro	Gly	Thr 5055	Ser	Ala	Val
His	Leu 5060	Glu	Thr	Ser	Gly	Thr 5065	Pro	Ala	Ser	Leu	Pro 5070	Gly	His	Thr
Ala	Pro 5075	Gly	Pro	Leu	Leu	Val 5080	Pro	Phe	Thr	Leu	Asn 5085	Phe	Thr	Ile
Thr	Asn 5090	Leu	Gln	Tyr	Glu	Glu 5095	Asp	Met	Arg	His	Pro 5100	Gly	Ser	Arg
Lys	Phe 5105	Asn	Thr	Thr	Glu	Arg 5110	Val	Leu	Gln	Gly	Leu 5115	Leu	Lys	Pro
Leu	Phe 5120	Lys	Ser	Thr	Ser	Val 5125	Gly	Pro	Leu	Tyr	Ser 5130	Gly	Cys	Arg
Leu	Thr 5135	Leu	Leu	Arg	Pro	Glu 5140	Lys	Arg	Gly	Ala	Ala 5145	Thr	Gly	Val
Asp	Thr 5150	Ile	Cys	Thr	His	Arg 5155	Leu	Asp	Pro	Leu	Asn 5160	Pro	Gly	Leu
Asp	Arg 5165	Glu	Gln	Leu	Tyr	Trp 5170	Glu	Leu	Ser	Lys	Leu 5175	Thr	Arg	Gly
Ile	Ile 5180	Glu	Leu	Gly	Pro	Tyr 5185	Leu	Leu	Asp	Arg	Gly 5190	Ser	Leu	Tyr

Val	Asn 5195	Gly	Phe	Thr	His	Arg 5200	Thr	Ser	Val	Pro	Thr 5205	Thr	Ser	Thr
Pro	Gly 5210	Thr	Ser	Thr	Val	Asp 5215	Leu	Gly	Thr	Ser	Gly 5220	Thr	Pro	Phe
Ser	Leu 5225	Pro	Ser	Pro	Ala	Xaa 5230	Xaa	Xaa	Pro	Leu	Leu 5235	Xaa	Pro	Phe
Thr	Leu 5240	Asn	Phe	Thr	Ile	Thr 5245		Leu	Xaa	Tyr	Glu 5250		Xaa	Met
Xaa	Xaa 5255	Pro	Gly	Ser	Arg	Lys 5260	Phe	Asn	Thr	Thr	Glu 5265	Arg	Val	Leu
Gln	Thr 5270	Leu	Leu	Gly	Pro	Met 5275	Phe	Lys	Asn	Thr	Ser 5280	Val	Gly	Leu
Leu	Tyr 5285	Ser	Gly	Cys	Arg	Leu 5290	Thr	Leu	Leu	Arg	Ser 5295	Glu	Lys	Asp
Gly	Ala 5300	Ala	Thr	Gly	Val	Asp 5305	Ala	Ile	Cys	Thr	His 5310	Arg	Leu	Asp
Pro	Lys 5315	Ser	Pro	Gly	Val	Asp 5320	Arg	Glu	Gln	Leu	Tyr 5325	Trp	Glu	Leu
Ser	Gln 5330	Leu	Thr	Asn	Gly	Ile 5335	Lys	Glu	Leu	Gly	Pro 5340	Tyr	Thr	Leu
Asp	Arg 5345	Asn	Ser	Leu	Tyr	Val 5350	Asn	Gly	Phe	Thr	His 5355	Trp	Ile	Pro
Val	Pro 5360	Thr	Ser	Ser	Thr	Pro 5365	Gly	Thr	Ser	Thr	Val 5370	Asp	Leu	Gly
Ser	Gly 5375	Thr	Pro	Ser	Leu	Pro 5380	Ser	Ser	Pro	Thr	Thr 5385	Ala	Gly	Pro
Leu	Leu 5390				Thr	$\Gamma \cap \cap \Gamma$					Thr 5400		Leu	Lys
Tyr	Glu 5405	Glu	Asp	Met	His	Cys 5410	Pro	Gly	Ser	Arg	Lys 5415	Phe	Asn	Thr
Thr	Glu 5420	Arg	Val	Leu	Gln	Ser 5425	Leu	Leu	Gly	Pro	Met 5430	Phe	Lys	Asn
Thr	Ser 5435	Val	Gly	Pro	Leu	Tyr 5440	Ser	Gly	Cys	Arg	Leu 5445	Thr	Leu	Leu
Arg	Ser 5450	Glu	Lys	Asp	Gly	Ala 5455	Ala	Thr	Gly	Val	Asp 5460	Ala	Ile	Cys
Thr	His 5465	Arg	Leu	Asp	Pro	Lys 5470	Ser	Pro	Gly	Val	Asp 5475	Arg	Glu	Gln
Leu	Tyr 5480	Trp	Glu	Leu	Ser	Gln 5485	Leu	Thr	Asn	Gly	Ile 5490	Lys	Glu	Leu

Gly	Pro 5495	Tyr	Thr	Leu	Asp	Arg 5500	Asn	Ser	Leu	Tyr	Val 5505	Asn	Gly	Phe
Thr	His 5510	Gln	Thr	Ser	Ala	Pro 5515	Asn	Thr	Ser	Thr	Pro 5520	Gly	Thr	Ser
Thr	Val 5525	Asp	Leu	Gly	Thr	Ser 5530	Gly	Thr	Pro	Ser	Ser 5535	Leu	Pro	Ser
Pro	Thr 5540	Xaa	Xaa	Xaa	Pro	Leu 5545	Leu	Xaa	Pro	Phe	Thr 5550	Leu	Asn	Phe
Thr	Ile 5555	Thr	Asn	Leu	Xaa	Tyr 5560	Glu	Glu	Xaa	Met	Xaa 5565	Xaa	Pro	Gly
Ser	Arg 5570	Lys	Phe	Asn	Thr	Thr 5575	Glu	Arg	Val	Leu	Gln 5580	Gly	Leu	Leu
Xaa	Pro 5585	Xaa	Phe	Lys	Xaa	Thr 5590	Ser	Val	Gly	Xaa	Leu 5595	Tyr	Ser	Gly
Cys	Arg 5600	Leu	Thr	Leu	Leu	Arg 5605	Xaa	Glu	Lys	Xaa	Xaa 5610	Ala	Ala	Thr
Xaa	Val 5615	Asp	Xaa	Xaa	Cys	Xaa 5620	Xaa	Xaa	Xaa	Asp	Pro 5625	Xaa	Xaa	Pro
Gly	Leu 5630	Asp	Arg	Glu	Xaa	Leu 5635	Tyr	Trp	Glu	Leu	Ser 5640	Xaa	Leu	Thr
Xaa	Xaa 5645	Ile	Xaa	Glu	Leu	Gly 5650	Pro	Tyr	Xaa	Leu	Asp 5655	Arg	Xaa	Ser
Leu	Tyr 5660	Val	Asn	Gly	Phe	Thr 5665	His	Trp	Ile	Pro	Val 5670	Pro	Thr	Ser
Ser	Thr 5675	Pro	Gly	Thr	Ser	Thr 5680	Val	Asp	Leu	Gly	Ser 5685	Gly	Thr	Pro
Ser	Ser 5690	Leu	Pro	Ser	Pro	Thr 5695			_		Leu 5700		Val	Pro
Phe	Thr 5705	Leu	Asn	Phe	Thr	Ile 5710	Thr	Asn	Leu	Lys	Tyr 5715	Glu	Glu	Asp
Met	His 5720	Cys	Pro	Gly	Ser	Arg 5725	Lys	Phe	Asn	Thr	Thr 5730	Glu	Arg	Val
Leu	Gln 5735	Ser	Leu	Leu	Gly	Pro 5740	Met	Phe	Lys	Asn	Thr 5745	Ser	Val	Gly
Pro	Leu 5750	Tyr	Ser	Gly	Cys	Arg 5755	Leu	Thr	Ser	Leu	Arg 5760	Ser	Glu	Lys
Asp	Gly 5765	Ala	Ala	Thr	Gly	Val 5770	Asp	Ala	Ile	Cys	Thr 5775	His	Arg	Val
Asp	Pro	Lys	Ser	Pro	Gly	Val	Asp	Arg	Glu	Gln	Leu	Tyr	Trp	Glu

	5780					5785					5790			
Leu	Ser 5795	Gln	Leu	Thr	Asn	Gly 5800	Ile	Lys	Glu	Leu	Gly 5805	Pro	Tyr	Thr
Leu	Asp 5810	Arg	Asn	Ser	Leu	Tyr 5815		Asn	Gly	Phe	Thr 5820		Gln	Thr
Ser	Ala 5825	Pro	Asn	Thr	Ser	Thr 5830		Gly	Thr	Ser	Thr 5835		Asp	Leu
Gly	Thr 5840	Ser	Gly	Thr	Pro	Ser 5845	Ser	Leu	Pro	Ser	Pro 5850	Thr	Ser	Ala
Gly	Pro 5855	Leu	Leu	Val	Pro	Phe 5860	Thr	Leu	Asn	Phe	Thr 5865	Ile	Thr	Asn
Leu	Gln 5870	Tyr	Glu	Glu	Asp	Met 5875	His	His	Pro	Gly	Ser 5880	Arg	Lys	Phe
Asn	Thr 5885	Thr	Glu	Arg	Val	Leu 5890	Gln	Gly	Leu	Leu	Gly 5895	Pro	Met	Phe
Lys	Asn 5900	Thr	Ser	Val	Gly	Leu 5905	Leu	Tyr	Ser	Gly	Cys 5910	Arg	Leu	Thr
Leu	Leu 5915	Arg	Pro	Glu	Lys	Asn 5920	Gly	Ala	Ala	Thr	Gly 5925	Met	Asp	Ala
Ile	Cys 5930	Thr	His	Arg	Leu	Asp 5935	Pro	Lys	Ser	Pro	Gly 5940	Leu	Asp	Arg
Glu	Xaa 5945	Leu	Tyr	Trp	Glu	Leu 5950	Ser	Xaa	Leu	Thr	Xaa 5955	Xaa	Ile	Xaa
Glu	Leu 5960	Gly	Pro	Tyr	Xaa	Leu 5965	Asp	Arg	Xaa	Ser	Leu 5970	Tyr	Val	Asn
Gly	Phe 5975	Xaa	Xaa	Xaa	Xaa	Xaa 5980	Xaa	Xaa	Xaa	Thr	Ser 5985	Thr	Pro	Gly
Thr	Ser 5990	Xaa	Val	Xaa	Leu	Xaa 5995	Thr	Ser	Gly	Thr	Pro 6000	Xaa	Xaa	Xaa
Pro	Xaa 6005	Xaa	Thr	Xaa	Xaa	Xaa 6010	Pro	Leu	Leu	Xaa	Pro 6015	Phe	Thr	Leu
Asn	Phe 6020	Thr	Ile	Thr	Asn	Leu 6025	Xaa	Tyr	Glu	Glu	Xaa 6030	Met	Xaa	Xaa
Pro	Gly 6035	Ser	Arg	Lys	Phe	Asn 6040	Thr	Thr	Glu	Arg	Val 6045	Leu	Gln	Gly
Leu	Leu 6050	Lys	Pro	Leu	Phe	Arg 6055	Asn	Ser	Ser	Leu	Glu 6060	Tyr	Leu	Tyr
Ser	Gly 6065	Cys	Arg	Leu	Ala	Ser 6070	Leu	Arg	Pro	Glu	Lys 6075	Asp	Ser	Ser

Ala	Met 6080	Ala	a Val	l Asp	Ala	1le 6085		Thr	: His	s Arc	9 Pro 6090		Pro	Glu
Asp	Leu 6095		/ Lei	ı Asp	Arg	Glu 6100		J Leu	1 Туг	Trp	Glu 6105		. Ser	Asn
Leu	Thr 6110	Asn	Gly	/ Ile	Gln	Glu 6115		ı Gly	/ Pro	туг	Thr 6120		Asp	Arg
Asn	Ser 6125	Leu	Туг	Val	Asn	Gly 6130		Thr	His	arg	Ser 6135		Met	Pro
Thr	Thr 6140	Ser	Thr	Pro	Gly	Thr 6145	Ser	Thr	· Val	. Asp	Val 6150		Thr	Ser
Gly	Thr 6155	Pro	Ser	Ser		Pro 6160		Pro	Thr	Thr	Ala 6165	_	Pro	Leu
Leu	Ile 6170	Pro	Phe	Thr	Leu	Asn 6175		Thr	Ile	Thr	Asn 6180		Gln	Tyr
Gly	Glu 6185	Asp	Met	Gly	His	Pro 6190		Ser	Arg	Lys	Phe 6195		Thr	Thr
Glu	Arg 6200	Val	Leu	Gln	Gly	Leu 6205	Leu	Gly	Pro	Ile	Phe 6210		Asn	Thr
Ser	Val 6215	Gly	Pro	Leu	Tyr	Ser 6220		Cys	Arg	Leu	Thr 6225		Leu	Arg
Ser	Glu 6230	Lys	Asp	Gly	Ala	Ala 6235		Gly	Val	Asp	Ala 6240		Cys	Ile
His	His 6245	Leu	Asp	Pro	Lys	Ser 6250	Pro	Gly	Leu	Asn	Arg 6255	Glu	Arg	Leu
Tyr	Trp 6260	Glu	Leu	Ser		Leu 6265	Thr	Asn	Gly	Ile	Lys 6270	Glu	Leu	Gly
Pro	Tyr 6275	Thr	Leu	Asp	Arg	Asn 6280	Ser	Leu	Tyr	Val	Asn 6285	Gly	Phe	Thr
His	Arg 6290	Thr	Ser	Val	Pro	Thr 6295	Thr	Ser	Thr	Pro	Gly 6300	Thr	Ser	Thr
Val	Asp 6305	Leu	Gly	Thr	Ser	Gly 6310	Thr	Pro	Phe	Ser	Leu 6315	Pro	Ser	Pro
Ala	Thr 6320	Ala	Gly	Pro	Leu	Leu 6325	Val	Leu	Phe	Thr	Leu 6330	Asn	Phe	Thr
Ile	Thr 6335	Asn	Leu	Lys	Tyr	Glu 6340	Glu	Asp	Met	His	Arg 6345	Pro	Gly	Ser
Arg	Lys 6350	Phe	Asn	Thr	Thr	Glu 6355	Arg	Val	Leu	Gln	Thr 6360	Leu	Leu	Gly
Pro	Met 6365	Phe	Lys	Asn	Thr	Ser 6370	Val	Gly	Leu	Leu	Tyr 6375	Ser	Gly	Cys

Arg	Leu 6380	Thr	Leu	Leu	Arg	Ser 6385		Lys	Asp	Gly	Ala 6390		a Thr	Gly
Val	Asp 6395	Ala	Ile	Cys	Thr	His 6400		Leu	Asp	Pro	Lys 6405		Pro	Gly
Leu	Asp 6410	Arg	Glu	Xaa	Leu	Tyr 6415		Glu	Leu	Ser	Xaa 6420		Thr	Xaa
Хаа	Ile 6425	Xaa	Glu	Leu	Gly	Pro 6430	Tyr	Xaa	Leu	Asp	Arg 6435		Ser	Leu
Tyr	Val 6440	Asn	Gly	Phe	Xaa	Xaa 6445		Xaa	Xaa	Xaa	Xaa 6450		Thr	Ser
Thr	Pro 6455	Gly	Thr	Ser	Xaa	Val 6460		Leu	Xaa	Thr	Ser 6465		Thr	Pro
Xaa	Xaa 6470	Xaa	Pro	Xaa	Xaa	Thr 6475		Xaa	Xaa	Pro	Leu 6480		Xaa	Pro
Phe	Thr 6485	Leu	Asn	Phe	Thr	Ile 6490		Asn	Leu	Xaa	Tyr 6495		Glu	Xaa
Met	Xaa 6500	Xaa	Pro	Gly	Ser	Arg 6505		Phe	Asn	Thr	Thr 6510		Arg	Val
Leu	Gln 6515	Gly	Leu	Leu	Arg	Pro 6520	Val	Phe	Lys	Asn	Thr 6525	Ser	Val	Gly
Pro	Leu 6530	Tyr	Ser	Gly	Cys	Arg 6535		Thr	Leu	Leu	Arg 6540	Pro	Lys	Lys
Asp	Gly 6545	Ala	Ala	Thr	Lys	Val 6550	Asp	Ala	Ile	Cys	Thr 6555	Tyr	Arg	Pro
Asp	Pro 6560	Lys	Ser	Pro	Gly	Leu 6565	Asp	Arg	Glu		Leu 6570	Tyr	Trp	Glu
Leu	Ser 6575	Gln	Leu	Thr	His	Ser 6580	Ile	Thr	Glu	Leu	Gly 6585	Pro	Tyr	Thr
Gln	Asp 6590	Arg	Asp	Ser	Leu	Tyr 6595	Val	Asn	Gly	Phe	Thr 6600	His	Arg	Ser
Ser	Val 6605	Pro	Thr	Thr	Ser	Ile 6610	Pro	Gly	Thr	Ser	Ala 6615	Val	His	Leu
Glu	Thr 6620	Thr	Gly	Thr	Pro	Ser 6625	Ser	Phe	Pro	Gly	His 6630	Thr	Glu	Pro
Gly	Pro 6635	Leu	Leu	Ile		Phe 6640	Thr	Phe	Asn	Phe	Thr 6645	Ile	Thr	Asn
Leu	Arg 6650	Tyr	Glu	Glu		Met 6655	Gln	His	Pro		Ser 6660	Arg	Lys	Phe
Asn	Thr	Thr	Glu	Arg	Val	Leu	Gln	Gly	Leu	Leu	Thr	Pro	Leu	Phe

	6665					6670)				6675	5		
Lys	Asn 6680		Ser	Val	Gly	Pro 6685		Tyr	Ser	Gly	Cys 6690		Leu	Thr
Leu	Leu 6695		Pro	Glu	Lys	Gln 6700		Ala	Ala	Thr	Gly 6705		Asp	Thr
Ile	Cys 6710		His	Arg	Val	Asp 6715		Ile	Gly	Pro	Gly 6720		Asp	Arg
Glu	Arg 6725	Leu	Tyr	Trp	Glu	Leu 6730		Gln	Leu	Thr	Asn 6735		Ile	Thr
Glu	Leu 6740	Gly	Pro	Tyr	Thr	Leu 6745		Arg	Asp	Ser	Leu 6750		Val	Asp
Gly	Phe 6755		Pro	Trp	Ser	Ser 6760		Pro	Thr	Thr	Ser 6765		Pro	Gly
Thr	Ser 6770	Thr	Val	His	Leu	Ala 6775		Ser	Gly	Thr	Pro 6780		Pro	Leu
Pro	Gly 6785	His	Thr	Ala	Pro	Val 6790		Leu	Leu	Ile	Pro 6795		Thr	Leu
Asn	Phe 6800	Thr	Ile	Thr	Asp	Leu 6805		Tyr	Glu	Glu	Asn 6810	Met	Gln	His
Pro	Gly 6815	Ser	Arg	Lys	Phe	Asn 6820	Thr	Thr	Glu	Arg	Val 6825	Leu	Gln	Gly
Leu	Leu 6830	Lys	Pro	Leu		Lys 6835	Ser	Thr	Ser	Val	Gly 6840	Pro	Leu	Tyr
Ser	Gly 6845	Cys	Arg	Leu	Thr	Leu 6850	Leu	Arg	Pro	Glu	Lys 6855	His	Gly	Ala
Ala	Thr 6860	Gly	Val	Asp	Ala	Ile 6865	Cys	Thr	Leu	Arg	Leu 6870	Asp	Pro	Thr
Gly	Pro 6875	Gly	Leu	Asp	Arg	Glu 6880	Arg	Leu	Tyr	Trp	Glu 6885	Leu	Ser	Gln
Leu	Thr 6890	Asn	Ser	Ile	Thr	Glu 6895	Leu	Gly	Pro	Tyr	Thr 6900	Leu	Asp	Arg
-	Ser 6905	Leu	Tyr	Val	Asn	Gly 6910	Phe	Asn	Pro	Trp	Ser 6915	Ser	Val	Pro
Thr	Thr 6920	Ser	Thr	Pro	Gly	Thr 6925	Ser	Thr	Val	His	Leu 6930	Ala	Thr	Ser
	Thr 6935	Pro	Ser	Ser	Leu	Pro 6940	Gly	His	Thr	Thr	Ala 6945	Gly	Pro	Leu
	Val 6950	Pro	Phe	Thr	Leu	Asn 6955	Phe	Thr	Ile	Thr	Asn 6960	Leu	Lys	Tyr

Glu	Glu 6965	Asp	Met	: His	Cys	Pro 6970		/ Sei	r Arg	g Lys	6975		n Thr	Thr
Glu	Arg 698(Val	. Lei	ı Glr	ser	Leu 6985		Gly	y Pro) Met	Phe 6990		s Asr	Thr
Ser	Val 6995	Gly	Pro	Leu	Tyr	Ser 7000		/ Cys	s Arç	j Lei	Thr 7005		ı Lev	Arg
Ser	Glu 7010	Lys)	Asp	Gly	Ala	Ala 7015		Gly	/ Val	. Asp	7020		e Cys	Thr
His	Arg 7025	Leu	Asp	Pro	Lys	Ser 7030		Gly	/ Leu	Asp	Arg 7035		. Xaa	Leu
Tyr	Trp 7040	Glu	Leu	Ser	Xaa	Leu 7045	Thr	Xaa	. Xaa	Ile	Xaa 7050		Leu	Gly
Pro	Tyr 7055	Xaa	Leu	Asp	Arg	Xaa 7060		Leu	Tyr	Val	Asn 7065		Phe	Xaa
Xaa	Xaa 7070	Хаа	Xaa	Xaa	Xaa	Xaa 7075		Ser	Thr	Pro	Gly 7080		Ser	Xaa
Val	Xaa 7085	Leu	Xaa	Thr	Ser	Gly 7090	Thr	Pro	Xaa	Xaa	Xaa 7095		Xaa	Xaa
Thr	Xaa 7100	Xaa	Xaa	Pro	Leu	Leu 7105		Pro	Phe	Thr	Leu 7110		Phe	Thr
Ile	Thr 7115	Asn	Leu	Xaa	Tyr	Glu 7120		Xaa	Met	Xaa	Xaa 7125		Gly	Ser
Arg	Lys 7130	Phe	Asn	Thr	Thr	Glu 7135	Arg	Val	Leu	Gln	Gly 7140	Leu	Leu	Xaa
Pro	Xaa 7145	Phe	Lys	Xaa	Thr	Ser 7150	Val	Gly	Xaa	Leu	Tyr 7155	Ser	Gly	Cys
Arg	Leu 7160	Thr	Leu	Leu	Arg	Xaa 7165			Xaa		Ala 7170		Thr	Xaa
Val	Asp 7175	Xaa	Xaa	Cys	Xaa	Xaa 7180	Xaa	Xaa	Asp	Pro	Xaa 7185	Xaa	Pro	Gly
Leu	Asp 7190	Arg	Glu	Xaa	Leu	Tyr 7195	Trp	Glu	Leu	Ser	Xaa 7200	Leu	Thr	Asn
Ser	Ile 7205	Thr	Glu	Leu	Gly	Pro 7210	Tyr	Thr	Leu	Asp	Arg 7215	Asp	Ser	Leu
Tyr	Val 7220	Asn	Gly	Phe	Thr	His 7225	Arg	Ser	Ser	Met	Pro 7230	Thr	Thr	Ser
Ile	Pro 7235	Gly	Thr	Ser	Ala	Val 7240	His	Leu	Glu	Thr	Ser 7245	Gly	Thr	Pro
Ala	Ser 7250	Leu	Pro	Gly	His	Thr 7255	Ala	Pro	Gly	Pro	Leu 7260	Leu	Val	Pro

Phe	Thr 7265		Asn	Phe	Thr	Ile 7270		Asn	Leu	Gln	Tyr 7275		Glu	Asp
Met	Arg 7280		Pro	Gly	Ser	Arg 7285		Phe	Asn	Thr	Thr 7290		Arg	Val
Leu	Gln 7295		Leu	Leu	Lys	Pro 7300		Phe	Lys	Ser	Thr 7305		Val	Gly
Pro	Leu 7310		Ser	Gly	Cys	Arg 7315		Thr	Leu	Leu	Arg 7320		Glu	Lys
Arg	Gly 7325		Ala	Thr	Gly	Val 7330		Thr	Ile	Cys	Thr 7335		Arg	Leu
Asp	Pro 7340		Asn	Pro	Gly	Leu 7345		Arg	Glu	Xaa	Leu 7350	_	Trp	Glu
Leu	Ser 7355		Leu	Thr	Xaa	Xaa 7360		Xaa	Glu	Leu	Gly 7365		Tyr	Xaa
Leu	Asp 7370		Xaa	Ser	Leu	Tyr 7375		Asn	Gly	Phe	Xaa 7380		Xaa	Xaa
Xaa	Xaa 7385	Xaa	Xaa	Thr	Ser	Thr 7390		Gly	Thr	Ser	Xaa 7395		Xaa	Leu
Xaa	Thr 7400	Ser	Gly	Thr	Pro	Xaa 7405		Xaa	Pro	Xaa	Xaa 7410	Thr	Xaa	Xaa
Xaa	Pro 7415	Leu	Leu	Xaa	Pro	Phe 7420		Leu	Asn	Phe	Thr 7425	Ile	Thr	Asn
Leu	Xaa 7430	Tyr	Glu	Glu	Xaa	Met 7435	Xaa	Xaa	Pro	Gly	Ser 7440	Arg	Lys	Phe
Asn	Thr 7445	Thr	Glu	Arg	Val	Leu 7450	Gln	Gly	Leu	Leu	Xaa 7455	Pro	Xaa	Phe
Lys	Xaa 7460	Thr	Ser	Val	Gly	Xaa 7465	Leu	Tyr	Ser	Gly	Cys 7470	Arg	Leu	Thr
Leu	Leu 7475	Arg	Xaa	Glu	Lys	Xaa 7480	Xaa	Ala	Ala	Thr	Xaa 7485	Val	Asp	Xaa
Xaa	Cys 7490	Xaa	Xaa	Xaa	Xaa	Asp 7495	Pro	Xaa	Xaa	Pro	Gly 7500	Leu	Asp	Arg
	Xaa 7505	Leu	Tyr	Trp	Glu	Leu 7510	Ser	Xaa	Leu	Thr	Xaa 7515	Xaa	Ile	Xaa
Glu	Leu 7520	Gly	Pro	Tyr	Xaa	Leu 7525	Asp	Arg	Xaa	Ser	Leu 7530	Tyr	Val	Asn
-	Phe 7535	His	Pro	Arg	Ser	Ser 7540	Val	Pro	Thr	Thr	Ser 7545	Thr	Pro	Gly
Thr	Ser	Thr	Val	His	Leu	Ala	Thr	Ser	Gly	Thr	Pro	Ser	Ser	Leu

	755	0				7555	5				7560)		
Pro	Gly 756	His 5	s Th	r Ala	a Pro	7570	Pro	Leu	Leu	ı Ile	Pro 7575		e Th	r Leu
Asn	7580	Th:	r Ile	∋ Thr	Asr	n Leu 7585	His	Tyr	Glu	Glu	1 Asn 7590		t Glı	n His
Pro	Gly 7595	Se ₁	r Arg	g Lys	s Phe	Asn 7600	Thr	Thr	Glu	Arg	7605		ı Glı	n Gly
Leu	Leu 7610	Gl _y	/ Pro	Met	: Phe	2 Lys 7615	Asn	Thr	Ser	Val	Gly 7620		ı Leı	ı Tyr
Ser	Gly 7625	Cys	arç	, Leu	Thr	Leu 7630	Leu	Arg	Pro	Glu	Lys 7635		n Gly	/ Ala
Ala	Thr 7640	Gly	Met	Asp	Ala	Ile 7645	Cys	Ser	His	Arg	Leu 7650		Pro	Lys
Ser	Pro 7655	Gly	Leu	Asp	Arg	Glu 7660	Xaa	Leu	Tyr	Trp	Glu 7665		. Ser	Xaa
Leu	Thr 7670	Xaa	Xaa	Ile	Xaa	Glu 7675	Leu	Gly	Pro	Tyr	Xaa 7680		Asp	Arg
Xaa	Ser 7685	Leu	Tyr	Val	Asn	Gly 7690		Xaa	Xaa	Xaa	Xaa 7695		Xaa	Xaa
Xaa	Thr 7700	Ser	Thr	Pro	Gly	Thr 7705		Xaa	Val	Xaa	Leu 7710	Xaa	Thr	Ser
Gly	Thr 7715	Pro	Xaa	Xaa	Xaa	Pro 7720	Xaa	Xaa	Thr	Xaa	Xaa 7725	Xaa	Pro	Leu
Leu	Xaa 7730	Pro	Phe	Thr	Leu	Asn 7735	Phe	Thr	Ile	Thr	Asn 7740	Leu	Xaa	Tyr
Glu	Glu 7745	Xaa	Met	Xaa	Xaa	Pro 7750	Gly	Ser	Arg	Lys	Phe 7755	Asn	Thr	Thr
Glu	Arg 7760	Val	Leu	Gln	Gly	Leu 7765	Leu	Xaa	Pro	Xaa	Phe 7770	Lys	Xaa	Thr
Ser	Val 7775	Gly	Xaa	Leu	Tyr	Ser 7780	Gly	Cys	Arg	Leu	Thr 7785	Leu	Leu	Arg
Xaa	Glu 7790	Lys	Xaa	Xaa	Ala	Ala 7795	Thr	Xaa	Val		Xaa 7800	Xaa	Cys	Xaa
Xaa	Xaa 7805	Xaa	Asp	Pro	Xaa	Xaa 7810	Pro	Gly	Leu		Arg 7815	Glu	Xaa	Leu
Tyr	Trp 7820	Glu	Leu	Ser	Xaa	Leu 7825	Thr	Xaa :	Xaa		Xaa 7830	Glu	Leu	Gly
	Tyr 7835	Xaa	Leu	Asp	Arg	Xaa 7840	Ser :	Leu '	Tyr		Asn 7845	Gly	Phe	Thr

His	Gln 785	As O	n Se	r Val	l Pro	o Thr 785	Th: 5	r Sei	r Thi	r Pro	Gly 786		r Se	r Thr
Val	. Tyr 786	Tr 5	p Ala	a Thi	Th:	c Gly 787	Thi	r Pro	Sei	r Sei	Phe 787		o Gl	y His
Thr	788	Pro O	o Gl	y Pro) Let	1 Leu 788!	Il€ 5	e Pro	Ph∈	e Thi	Phe 7890	As O	n Ph	e Thr
Ile	Thr 789	Ası 5	n Lei	ı His	Tyr	Glu 7900	Glu O	ı Asr	n Met	: Glr	His 7905		o Gl	y Ser
Arg	Lys 791(Phe O	e Asr	Thr	Thr	Glu 7915	Arg	val	. Leu	Glr	Gly 7920		ı Le	u Thr
Pro	Leu 7925	Phe	e Lys	s Asn	Thr	Ser 7930	Val	Gly	Pro	Leu	Tyr 7935		r Gl	y Cys
Arg	Leu 7940	Thr	Leu	Leu	Arg	Pro 7945	Glu	Lys	Gln	Glu	Ala 7950		a Thi	c Gly
Val	Asp 7955	Thr	Ile	Cys	Thr	His 7960	Arg	Val	Asp	Pro	Ile 7965		/ Pro	o Gly
Leu	Asp 7970	Arg	Glu	Xaa	Leu	Tyr 7975	Trp	Glu	Leu	Ser	Xaa 7980		Thr	. Xaa
Xaa	Ile 7985	Xaa	Glu	Leu	Gly	Pro 7990	Tyr	Xaa	Leu	Asp	Arg 7995		Ser	Leu
Tyr	Val 8000	Asn	Gly	Phe	Xaa	Xaa 8005	Xaa	Xaa	Xaa	Xaa	Xaa 8010		Thr	Ser
Thr	Pro 8015	Gly	Thr	Ser	Xaa	Val 8020	Xaa	Leu	Xaa	Thr	Ser 8025	Gly	Thr	Pro
Xaa	Xaa 8030	Xaa	Pro	Xaa	Xaa	Thr 8035	Xaa	Xaa	Xaa	Pro	Leu 8040	Leu	Xaa	Pro
Phe	Thr 8045	Leu	Asn	Phe	Thr	Ile 8050	Thr	Asn	Leu	Xaa	Tyr 8055	Glu	Glu	Xaa
Met	Xaa 8060	Xaa	Pro	Gly	Ser	Arg 8065	Lys	Phe	Asn	Thr	Thr 8070	Glu	Arg	Val
	Gln 8075	Gly	Leu	Leu	Xaa	Pro 8080	Xaa	Phe	Lys	Xaa	Thr 8085	Ser	Val	Gly
	Leu 8090	Tyr	Ser	Gly	Cys	Arg 8095	Leu	Thr	Leu		Arg 8100	Xaa	Glu	Lys
Xaa	Xaa 8105	Ala	Ala	Thr	Xaa	Val 8110	Asp	Xaa	Xaa		Xaa 8115	Xaa	Xaa	Xaa
Asp	Pro 8120	Xaa	Xaa	Pro	Gly	Leu 8125	Asp	Arg	Glu		Leu 8130	Tyr	Trp	Glu
Leu	Ser 8135	Xaa	Leu	Thr :	Xaa :	Xaa 8140	Ile	Xaa 🛚	Glu :		Gly 8145	Pro	Tyr	Xaa

Lei	1 Asp 815	Ar	g Xa	a Se:	r Lei	ı Tyr 815	Val	l Ası	n Gly	y Ph€	e Thr 816		s Ar	g Ser
Sei	2 Val 816	Pro 5	o Thi	r Thi	r Sei	Ser 8170	Pro 0	o Gly	y Thi	Ser	Thr 817		l Hi	s Leu
Ala	818	Se:	r Gl		r Pro	Ser 8185	Ser 5	Leu	ı Pro	o Gly	His 8190		r Ala	a Pro
Val	Pro 819	Let	ı Leı	ı Ile	e Pro	Phe 8200	Thr	Leu	ı Asn	n Phe	Thr 8205		∋ Thi	: Asn
Leu	His 8210	Туг	Glu	ı Glu	ı Asn	Met 8215	Gln	His	Pro	Gly	Ser 8220		g Lys	s Phe
Asn	Thr 8225	Thr	Glu	Arç	y Val	Leu 8230	Gln	Gly	Leu	Leu	Lys 8235		Let	ı Phe
Lys	Ser 8240	Thr	Ser	· Val	. Gly	Pro 8245	Leu	Tyr	Ser	Gly	Cys 8250		J Leu	Thr
Leu	Leu 8255	Arg	Pro	Glu	Lys	His 8260	Gly	Ala	Ala	Thr	Gly 8265		Asp	Ala
Ile	Cys 8270	Thr	Leu	Arg	Leu	Asp 8275	Pro	Thr	Gly	Pro	Gly 8280		Asp	Arg
Glu	Xaa 8285	Leu	Tyr	Trp	Glu	Leu 8290	Ser	Xaa	Leu	Thr	Xaa 8295		Ile	Xaa
Glu	Leu 8300	Gly	Pro	Tyr	Xaa	Leu 8305	Asp	Arg	Xaa	Ser	Leu 8310		Val	Asn
Gly	Phe 8315	Xaa	Xaa	Xaa	Xaa	Xaa 8320	Xaa	Xaa	Xaa	Thr	Ser 8325	Thr	Pro	Gly
Thr	Ser 8330	Xaa	Val	Xaa	Leu	Xaa 8335	Thr	Ser	Gly	Thr	Pro 8340	Xaa	Xaa	Xaa
Pro	Xaa 8345	Xaa	Thr	Xaa	Xaa	Xaa 8350	Pro	Leu	Leu	Xaa	Pro 8355		Thr	Leu
Asn	Phe 8360	Thr	Ile	Thr	Asn	Leu 8365	Xaa	Tyr	Glu	Glu	Xaa 8370	Met	Xaa	Xaa
Pro	Gly 8375	Ser	Arg	Lys	Phe	Asn 8380	Thr		Glu		Val 8385	Leu	Gln	Gly
Leu	Leu 8390	Xaa	Pro	Xaa	Phe	Lys 8395	Xaa	Thr	Ser		Gly 8400	Xaa	Leu	Tyr
Ser	Gly 8405	Cys	Arg	Leu	Thr	Leu 8410	Leu	Arg	Xaa		Lys 8415	Xaa	Xaa	Ala
Ala	Thr 8420	Xaa	Val	Asp	Xaa	Xaa 8425	Cys	Xaa	Xaa		Xaa 8430	Asp	Pro	Xaa
Xaa	Pro	Gly	Leu	Asp	Arg	Glu	Xaa	Leu	Tyr	Trp	Glu	Leu	Ser	Xaa

	8435	5				844	0				844	5		
Leu	Thr 8450	Xaa)	a Xaa	a Ile	e Xaa	a Glu 845	Leu 5	ı Gly	y Pro	o Tyr	Xaa 846		u As	p Arg
Xaa	Ser 8465	Leu	1 Ту	r Val	l Asr	Gly 8470	Phe O	e Thr	c His	s Arç	Thr 847		r Va	l Pro
Thr	Thr 8480	Ser	Thi	r Pro	o Gly	7 Thr 8485	Ser	Thr	. Val	. His	Leu 8490		a Th:	r Ser
Gly	Thr 8495	Pro	Ser	s Ser	Leu	Pro 8500		His	Thr	Ala	Pro 8505		L Pro	o Leu
Leu	Ile 8510	Pro	Phe	e Thr	Leu	8515	Phe	Thr	Ile	Thr	Asn 8520		ı Glr	n Tyr
Glu	Glu 8525	Asp	Met	His	Arg	Pro 8530	Gly	Ser	Arg	Lys	Phe 8535		Thi	Thr
Glu	Arg 8540	Val	Leu	Gln	Gly	Leu 8545	Leu	Ser	Pro	Ile	Phe 8550		Asr	n Ser
Ser	Val 8555	Gly	Pro	Leu	Tyr	Ser 8560	Gly	Cys	Arg	Leu	Thr 8565		Leu	ı Arg
Pro	Glu 8570	Lys	Asp	Gly	Ala	Ala 8575	Thr	Gly	Met	Asp	Ala 8580		Cys	Leu
Tyr	His 8585	Pro	Asn	Pro	Lys	Arg 8590	Pro	Gly	Leu	Asp	Arg 8595		Gln	Leu
Tyr	Cys 8600	Glu	Leu	Ser	Gln	Leu 8605	Thr	His	Asn	Ile	Thr 8610	Glu	Leu	Gly
Pro	Tyr 8615	Ser	Leu	Asp	Arg	Asp 8620	Ser	Leu	Tyr	Val	Asn 8625		Phe	Thr
His	Gln 8630	Asn	Ser	Val	Pro	Thr 8635	Thr	Ser	Thr	Pro	Gly 8640	Thr	Ser	Thr
Val	Tyr 8645	Trp	Ala	Thr	Thr	Gly 8650	Thr	Pro	Ser	Ser	Phe 8655	Pro	Gly	His
Thr	Xaa 8660	Xaa	Xaa	Pro	Leu	Leu 8665	Xaa	Pro	Phe		Leu 8670	Asn	Phe	Thr
Ile	Thr 8675	Asn	Leu	Xaa	Tyr	Glu 8680	Glu	Xaa	Met		Xaa 8685	Pro	Gly	Ser
Arg	Lys 8690	Phe	Asn	Thr	Thr	Glu 8695	Arg	Val	Leu		Gly 8700	Leu	Leu	Xaa
Pro	Xaa 8705	Phe	Lys	Xaa	Thr	Ser 8710	Val	Gly	Xaa		Tyr 8715	Ser	Gly	Cys
_	Leu 8720	Thr	Leu	Leu	Arg	Xaa 8725	Glu	Lys	Xaa		Ala 8730	Ala	Thr	Xaa

Val	Asp 873	Xa. 5	a Xa	a Cy:	s Xaa	a Xaa 874	Xaa 0	a Xaa	a Asp	p Pro	Xaa 874		a Pr	o Gly
Leu	Asp 875	Aro O	g Gl	u Xaa	a Lei	ı Tyr 875!	Trp 5	o Glu	ı Lev	ı Ser	Xaa 876		u Th	r Xaa
Xaa	Ile 876	Xaa	a Glı	a Lei	ı Gly	y Pro 8770	Tyr O	: Xaa	a Lev	ı Asp	Arg 877		a Se:	r Leu
Tyr	Val 8780		n Gl	y Phe	e Thr	His 8785	Trp	Ser	Ser	Gly	Leu 8790	Th:	r Th:	r Ser
Thr	Pro 8795	Trp	Th:	Ser	Thr	Val 8800	Asp	Leu	Gly	Thr	Ser 8805		y Thi	r Pro
Ser	Pro 8810	Val	Pro	Ser	Pro	Thr 8815	Thr	Ala	Gly	Pro	Leu 8820		ı Val	Pro
Phe	Thr 8825	Leu	ı Asr	Phe	Thr	Ile 8830	Thr	Asn	Leu	Gln	Tyr 8835		ı Glı	ı Asp
Met	His 8840	Arg	Pro	Gly	Ser	Arg 8845	Lys	Phe	Asn	Ala	Thr 8850		Arg	Val
Leu	Gln 8855	Gly	Leu	. Leu	Ser	Pro 8860	Ile	Phe	Lys	Asn	Thr 8865		Val	Gly
Pro	Leu 8870	Tyr	Ser	Gly	Cys	Arg 8875	Leu	Thr	Leu	Leu	Arg 8880		Glu	Lys
Gln	Glu 8885	Ala	Ala	Thr	Gly	Val 8890	Asp	Thr	Ile	Cys	Thr 8895	His	Arg	Val
-	Pro 8900	Ile	Gly	Pro	Gly	Leu 8905	Asp	Arg	Glu	Xaa	Leu 8910		Trp	Glu
Leu	Ser 8915	Xaa	Leu	Thr	Xaa	Xaa 8920	Ile	Xaa	Glu	Leu	Gly 8925	Pro	Tyr	Xaa
Leu	Asp 8930	Arg	Xaa	Ser	Leu	Tyr 8935	Val	Asn	Gly	Phe	Xaa 8940	Xaa	Xaa	Xaa
Xaa :	Xaa 8945	Xaa	Xaa	Thr	Ser	Thr 8950	Pro	Gly	Thr	Ser	Xaa 8955	Val	Xaa	Leu
Xaa	Thr 8960	Ser	Gly	Thr	Pro	Xaa 8965	Xaa	Xaa	Pro		Xaa 8970	Thr	Xaa	Xaa
Xaa :	Pro 8975	Leu	Leu	Xaa	Pro	Phe 8980	Thr	Leu	Asn		Thr 8985	Ile	Thr	Asn
Leu 2	Xaa 3990	Tyr	Glu	Glu	Xaa	Met 8995	Xaa	Xaa	Pro		Ser 9000	Arg	Lys	Phe
Asn 5	Thr 9005	Thr	Glu	Arg	Val	Leu 9010	Gln	Gly	Leu		Xaa 9015	Pro	Xaa	Phe
Lys >	Kaa 9020	Thr	Ser	Val	Gly	Xaa 9025	Leu	Tyr	Ser		Cys 9030	Arg	Leu	Thr

Lei	ı Leu 903	Ar 5	g Xa	a Gl	u Ly:	s Xaa 904	Xa 0	a Ala	a Ala	a Thr	: Xaa 904		l As	p Xaa
Xaa	905	Xa 0	a Xa	a Xa	a Xaa	a Asp 905	Pro 5	o Xaa	a Xaa	a Pro	906		u As	p Arg
Glu	1 Xaa 906	Le 5	и Ту	r Tr	o Glu	Leu 907	Sei 0	r Xaa	a Leu	ı Thr	Xaa 9075		a Il	e Xaa
Glu	908	Gl O	y Pr	о Ту	r Xaa	e Leu 908!	Asp 5	o Aro	g Xaa	Ser	Leu 9090	Ty.	r Val	l Asn
Gly	Phe 909!	Th.	r Hi	s Aro	g Ser	9100	Gl _y	/ Leu	ı Thr	Thr	Ser 9105		r Pro	o Trp
Thr	Ser 9110	Th:	r Vai	l Asp	Leu	Gly 9115	Thr	Ser	Gly	Thr	Pro 9120		r Pro	o Val
Pro	Ser 9125	Pro	o Thi	Thr	Ala	Gly 9130	Pro	Leu	Leu	Val	Pro 9135	Phe	e Thr	Leu
Asn	Phe 9140	Thi	: Ile	e Thr	Asn	Leu 9145	Gln	Tyr	Glu	Glu	Asp 9150		His	Arg
Pro	Gly 9155	Ser	Arg	l Lys	Phe	Asn 9160	Thr	Thr	Glu	Arg	Val 9165		ıGln	Gly
Leu	Leu 9170	Thr	Pro	Leu	Phe	Arg 9175	Asn	Thr	Ser	Val	Ser 9180		Leu	Tyr
Ser	Gly 9185	Суѕ	Arg	Leu	Thr	Leu 9190	Leu	Arg	Pro	Glu	Lys 9195		Gly	Ala
Ala	Thr 9200	Arg	Val	Asp	Ala	Val 9205	Cys	Thr	His	Arg	Pro 9210	Asp	Pro	Lys
Ser	Pro 9215	Gly	Leu	Asp	Arg	Glu 9220	Xaa	Leu	Tyr	Trp	Glu 9225	Leu	Ser	Xaa
Leu	Thr 9230	Xaa	Xaa	Ile	Xaa	Glu 9235	Leu	Gly	Pro	Tyr	Xaa 9240	Leu	Asp	Arg
Xaa	Ser 9245	Leu	Tyr	Val	Asn	Gly 9250	Phe	Xaa	Xaa		Xaa 9255	Xaa	Xaa	Xaa
Xaa	Thr 9260	Ser	Thr	Pro	Gly	Thr 9265	Ser	Xaa	Val		Leu 9270	Xaa	Thr	Ser
Gly	Thr 9275	Pro	Xaa	Xaa	Xaa	Pro 9280	Xaa	Xaa	Thr		Xaa 9285	Xaa	Pro	Leu
Leu	Xaa 9290	Pro	Phe	Thr	Leu	Asn 9295	Phe	Thr	Ile		Asn 9300	Leu	Xaa	Tyr
Glu	Glu 9305	Xaa	Met	Xaa	Xaa	Pro 9310	Gly	Ser	Arg		Phe 9315	Asn	Thr	Thr
Glu Z	Arg	Val	Leu	Gln	Gly	Leu	Leu	Xaa	Pro 1	Xaa I	Phe	Lys	Xaa	Thr

	932	0				9	325	,				9	330				
Ser	Val 933	G: 5	Ly Xa	aa Le	eu T	yr S 9	er 340	Gl	у С <u>7</u>	/s A:	rg L	eu T 9	hr 345	Le	u Le	∍u	Arg
Xaa	Glu 935	0 L7	/s Xa	aa Xa	ıa Al	la A 9	la 355	Th	r Xa	ia Va	al A	sp X 9	aa 360	Xa	a Cy	/S	Xaa
Xaa	Xaa 936	X <i>a</i> 5	ıa As	sp Pr	o Xa	aa X 9	aa 370	Pro	o Gl	y Le	eu As		rg 375	Glı	ı Xa	ıa	Leu
Tyr	Trp 9380	G1)	u Le	u Se	r Xa	ia Le 9:	eu 385	Thi	: Xa	a Xa	a Il		aa 390	Glı	ı Le	·u (Gly
Pro	Tyr 9395	Xa	a Le	u As	p Ar	g Xa 94	aa 100	Ser	Le	и Ту	r Va	ıl As 94	sn 105	Gly	, Ph	e :	Fhr
His	Trp 9410	Il	e Pr	o Va	l Pr	0 Th 94	15	Ser	Se:	r Th	r Pr	o G1 94	у 20	Thr	Se	r 1	Thr
Val	Asp 9425	Le	u Gl	y Se:	r Gl	y Th 94	r 30	Pro	Se	r Se	r Le	u Pr 94	o 35	Ser	Pr	rc	hr
Thr	Ala 9440	Gl	y Pro) Lei	ı Le	u Va 94	1 45	Pro	Ph€	∍ Th:	r Le	u As 94		Phe	Th	r I	le
Thr	Asn 9455	Let	ı Glı	туг	Gl _y	y Gl 94	u 60	Asp	Met	: Gl	y Hi	s Pr 94		Gly	Sei	: A	rg
Lys	Phe 9470	Asr	Thi	Thr	Glu	a Ar 94	g 75	Val	Leu	ı Glr	n Gl	y Lei 948		Leu	Gly	, P	ro
Ile 1	Phe 9485	Lys	Asn	Thr	Ser	94:	1 (90	Gly	Pro	Let	туі	Sei 949	c (Gly	Cys	: A.	rg
Leu 1	Thr 9500	Ser	Leu	Arg	Ser	Gli 950	ı 1)5	Lys	Asp	Gly	' Ala	Ala 951	a 7	Thr	Gly	Vá	al
Asp A	Ala 9515	Ile	Cys	Ile	His	His 952	S I	Leu	Asp	Pro	Lys	Ser 952	5	Pro	Gly	Le	∍u
Asp A	Arg 9530	Glu	Xaa	Leu	Tyr	Trp 953	5 5	Slu	Leu	Ser	Xaa	Leu 954		'hr	Xaa	Χā	ıa
Ile X 9	aa 1545	Glu	Leu	Gly	Pro	Tyr 955	0 0	aa	Leu	Asp	Arg	Xaa 955		er	Leu	Ту	r
Val A 9	sn 560	Gly	Phe	Xaa	Xaa	Xaa 956	X 5	aa :	Xaa	Xaa	Xaa	Xaa 957		hr :	Ser	Th	r
Pro G 9	ly ' 575	Thr	Ser	Xaa	Val	Xaa 958	L 0	eu 2	Xaa	Thr	Ser	Gly 958:	T.	hr 1	Pro	Хa	a
Xaa Xa 9!	aa 1 590	Pro	Xaa	Xaa	Thr	Xaa 959	X. 5	aa X	<aa< td=""><td>Pro</td><td>Leu</td><td>Leu 9600</td><td></td><td>aa I</td><td>Pro</td><td>Ph</td><td>e</td></aa<>	Pro	Leu	Leu 9600		aa I	Pro	Ph	e
Thr Le	eu <i>1</i> 605	Asn	Phe	Thr	Ile	Thr 961		sn I	Leu	Xaa	Tyr	Glu 9615		lu X	(aa	Me	t

Xaa	. Ха <i>а</i> 962	P:	ro G	ly S	er Aı	g Ly: 96:	s Ph 25	ne As	n Th	r Th	r Glu 963	Are	g Va	l Leu
Gln	Gly 963	, Le	eu Le	eu Xa	aa Pr	o Xaa	a Ph 10	ie Ly	s Xa	a Th:	r Ser 964		l Gl	у Хаа
Leu	Tyr 965	S€ 0	er Gl	Ly Cy	ys Ar	g Lei 965	ı Th	r Le	u Le	u Arq	g Xaa 966	Glı O	ı Ly	s Xaa
Xaa	Ala 966	A1 5	a Th	ır Xa	a Va	l Asp 967	Xa '0	a Xa	a Cy:	s Xaa	Xaa 967.	Xaa 5	ı Xa	a Asp
Pro	Xaa 968	Ха 0	a Pr	:0 Gl	y Le	u Asp 968	Ar 5	g Glı	ı Xaa	a Leu	Tyr 9690	Trp	Gl:	ı Leu
Ser	Xaa 969	Le 5	u Th	r Xa	a Xa	a Ile 970	Xa 0	a Glu	ı Leı	ı Gly	Pro 9705	Tyr	Xaa	a Leu
Asp	Arg 971(Xa)	a Se	r Le	u Ty:	r Val 971	Ası 5	n Gly	⁄ Ph∈	Thr	His 9720	Gln	Thr	Phe
Ala	Pro 9725	As	n Th	r Se	r Thi	Pro 973	Gly O	y Thr	Ser	Thr	Val 9735		Leu	Gly
Thr	Ser 9740	Gl;	y Th	r Pr	o Ser	Ser 974	Let 5	ı Pro	Ser	Pro	Thr 9750	Ser	Ala	Gly
Pro	Leu 9755	Let	ı Vai	l Pro	⊃ Phe	9760	Leu)	ı Asn	Phe	Thr	Ile 9765	Thr	Asn	Leu
Gln	Tyr 9770	Glı	ı Glı	ı Asp) Met	His 9775	His	Pro	Gly	Ser	Arg 9780	Lys	Phe	Asn
Thr	Thr 9785	Glu	ı Arç	y Val	. Leu	Gln 9790	Gly	Leu	Leu	Gly	Pro 9795	Met	Phe	Lys
Asn S	Thr 9800	Ser	· Val	Gly	' Leu	Leu 9805	Tyr	Ser	Gly	Cys	Arg 9810	Leu	Thr	Leu
Leu A	Arg 9815	Pro	Glu	Lys	Asn	Gly 9820	Ala	Ala	Thr	Arg	Val 9825	Asp	Ala	Val
Cys T	Thr 9830	His	Arg	Pro	Asp	Pro 9835	Lys	Ser	Pro	Gly	Leu 9840	Asp .	Arg	Glu
Xaa I	Leu 9845	Tyr	Trp	Glu	Leu	Ser 9850	Xaa	Leu	Thr		Xaa 9855	Ile :	Xaa	Glu
Leu G 9	31y 1860	Pro	Tyr	Xaa	Leu	Asp 9865	Arg	Xaa	Ser	Leu '	Tyr 9870	Val A	Asn	Gly
Phe X 9	aa 875	Xaa	Xaa	Xaa	Xaa	Xaa 9880	Xaa	Xaa	Thr		Thr 9885	Pro (Gly '	Thr
Ser X 9	aa 890	Val	Xaa	Leu	Xaa	Thr 9895	Ser	Gly '	Thr :		Kaa :	Xaa X	【aa ∣	Pro
Xaa X	aa 905	Thr	Ala	Pro	Val	Pro 9910	Leu	Leu :	Ile 1		he 7	Thr L	eu A	Asn

Phe	Thr 9920	Ile	Thr	· Asn	Leu	His 9925	Tyr	Glu	Glu	Asn	Met 9930	Gln i	His 1	Pro
Gly	Ser 9935	Arg	Lys	Phe	Asn	Thr 9940	Thr	Glu	Arg	Val	Leu 9945	Gln (Gly I	Leu
Leu	Arg 9950	Pro	Leu	Phe	Lys	Ser 9955	Thr	Ser	Val	Gly	Pro :	Leu 1	fyr S	Ser
Gly	Cys 9965	Arg	Leu	Thr	Leu	Leu 9970	Arg	Pro	Glu	Lys	His (Gly A	Ala A	la
Thr	Gly 9980	Val	Asp	Ala	Ile	Cys 9985	Thr	Leu	Arg	Leu	Asp 1 9990	Pro I	hr G	ly
Pro	Gly 9995	Leu	Asp	Arg	Glu	Arg 10000	Leu	Tyr	Trp	Glu	Leu 10005	Ser	Gln	Leu
Thr	Asn 10010	Ser	· Val	l Thi	Glu	Leu 1001	G1 ₃ 5	y Pr	о Ту	r Th	r Leu 1002	As	p Ar	g Asp
Ser	Leu 10025	Tyr	Val	L Asr	Gly	Phe 1003	Th:	r Glı	n Ar	g Se	r Ser 1003	Va 5	l Pr	o Thr
Thr	Ser 10040	Ile	Pro	Gly	Thr	Ser 1004	Ala 5	a Val	l His	s Lei	ı Glu 1005	Th:	r Sei	r Gly
Thr	Pro 10055	Ala	Ser	Leu	Pro	Gly 10060	His O	5 Thr	: Ala	a Pro	Gly 1006	Pro 5) Lei	ı Leu
Val	Pro 10070	Phe	Thr	Leu	Asn	Phe 10075	Thr	·Il∈	e Thr	Asr	Leu 1008	Glr O	а Туг	Glu
Val	Asp 10085	Met	Arg	His	Pro	Gly 10090	Ser	Arg	l Lys	Phe	Asn 1009!	Thr 5	Thr	Glu
Arg	Val 10100	Leu	Gln	Gly	Leu	Leu 10105	Lys	Pro	Leu	Phe	Lys 1011(Ser	Thr	Ser
Val	Gly 10115			Tyr		Gly 10120	Cys	Arg	Leu	Thr	Leu 10125	Leu	Arg	Pro
Glu :	Lys 10130	Arg	Gly	Ala	Ala	Thr 10135	Gly	Val	Asp	Thr	Ile 10140	Cys	Thr	His
Arg 1	Leu 10145	Asp	Pro	Leu	Asn	Pro 10150	Gly	Leu	Asp	Arg	Glu 10155		Leu	Tyr
Trp (Glu 10160	Leu	Ser	Lys	Leu	Thr 10165	Arg	Gly	Ile	Ile	Glu 10170		Gly	Pro
Tyr I	Leu .0175	Leu .	Asp	Arg	Gly	Ser 10180	Leu	Tyr	Val	Asn	Gly 10185		Thr	His
Arg A	sn .0190	Phe '	Val	Pro	Ile	Thr 10195	Ser	Thr	Pro	Gly	Thr 10200	Ser	Thr	Val
His L	eu (Gly '	Thr	Ser	Glu	Thr	Pro	Ser	Ser	Leu	Pro	Arg	Pro	Ile

	10205	ō				1021	0				1021	5		
Val	Pro 1022(Gl _y	/ Pro) Le	ı Le	u Val 1022	Pr 5	o Ph	e Th	r Le	u Asn 1023		ie Th	r Ile
Thr	Asn 10235	Leu	ı Glr	туг	Glu	Glu 1024	Al O	a Me			s Pro 1024		y Se	r Arg
Lys	Phe 10250	Asn	Thr	Thr	Glu	ı Arg 1025	Va 5	l Le	u Gli	n Gly	/ Leu 1026	Le 0	u Ar	g Pro
Leu	Phe 10265	Lys	Asn	Thr	Ser	lle 1027	Gl; 0	y Pro) Let	ı Tyr	Ser 1027	Se 5	r Cy	s Arg
Leu	Thr 10280	Leu	Leu	Arg	Pro	Glu 1028	Ly: 5	s Asp	D Lys	s Ala	Ala 10290		r Ar	g Val
Asp	Ala 10295	Ile	Суѕ	Thr	His	His 10300	Pro	o Asp	Pro	Gln	Ser 10305	Pr	o Gl	y Leu
Asn	Arg 10310	Glu	Gln	Leu	Tyr	Trp 10315	Glu	ı Lev	Ser	Gln	Leu 10320		r His	s Gly
Ile	Thr 10325	Glu	Leu	Gly	Pro	Tyr 10330	Thr	Leu	Asp	Arg	Asp 10335	Sei	: Lei	ı Tyr
Val	Asp 10340	Gly	Phe	Thr	His	Trp 10345	Ser	Pro	Ile	Pro	Thr 10350	Thr	Ser	Thr
Pro	Gly 10355	Thr	Ser	Ile	Val	Asn 10360	Leu	Gly	Thr	Ser	Gly 10365	Il∈	Pro	Pro
Ser	Leu 10370	Pro	Glu	Thr	Thr	Xaa 10375	Xaa	Xaa	Pro	Leu	Leu 10380		Pro	Phe
Thr	Leu 10385	Asn	Phe	Thr	Ile	Thr 10390	Asn	Leu	Xaa	Tyr	Glu 10395	Glu	Xaa	Met
Xaa	Xaa 10400	Pro	Gly	Ser	Arg	Lys 10405	Phe	Asn	Thr	Thr	Glu 10410	Arg	Val	Leu
Gln	Gly 10415	Leu	Leu	Lys	Pro	Leu 10420	Phe	Lys	Ser	Thr	Ser 10425	Val	Gly	Pro
Leu	Tyr 10430	Ser	Gly	Cys	Arg	Leu 10435	Thr	Leu	Leu	Arg	Pro 10440	Glu	Lys	Asp
Gly :	Val 10445	Ala	Thr .	Arg	Val	Asp 10450	Ala	Ile	Cys		His 10455	Arg	Pro	Asp
Pro 1	Lys 10460	Ile	Pro (Gly	Leu .	Asp 10465	Arg	Gln	Gln	Leu	Tyr 10470	Trp	Glu	Leu
Ser (Gln :	Leu :	Thr I	His :	Ser	Ile 10480	Thr	Glu	Leu		Pro 10485	Tyr	Thr	Leu
Asp A	Arg A 10490	Asp S	Ser 1	Leu :	Tyr '	Val 10495	Asn	Gly	Phe		Gln 10500	Arg	Ser	Ser

Va.	l Pro 1050	Th 15	nr Th	nr Se	er Th	r Pro 105	GI 10	ly Th	ır Ph	ie Thi	r Val 1051	Gln 5	Pro	Glu
Th	r Ser 1052	G1 0	u Th	ır Pr	o Se	r Ser 1052	L∈ 25	eu Pr	o Gl	y Pro	Thr 1053	Ala O	Thr	Gly
Pro	Val 1053	Le 5	u Le	u Pr	o Ph	e Thr 1054	L∈ 40	u As	n Ph	e Thr	11e 1054		Asn	Leu
Glr	1055	G1 0	u Gl	u As	p Met	t His 1055	Ar 55	g Pr	o G1	y Ser	Arg 1056	Lys)	Phe	Asn
Thr	Thr 1056	Gl: 5	u Ar	g Va	l Leı	u Gln 1057	Gl '0	y Le	u Lei	u Met	Pro 10575	Leu	Phe	Lys
Asn	Thr 10580	Se:	r Va	l Sei	r Ser	Leu 1058	Ту	r Sei	c Gly	y Cys	Arg 10590	Leu)	Thr	Leu
Leu	Arg 10595	Pro	Gl:	ı Lys	s Asp	Gly 1060	Al: 0	a Ala	a Thr	Arg	Val 10605	Asp	Ala	Val
Cys	Thr 10610	His	Arç	g Pro	Asp	Pro 1061	Lys 5	s Ser	Pro	Gly	Leu 10620	Asp	Arg	Glu
Arg	Leu 10625	Tyr	Trp) Lys	Leu	Ser 1063	Glr O	l Leu	Thr	His	Gly 10635	Ile	Thr	Glu
Leu	Gly 10640	Pro	Tyr	Thr	Leu	Asp 10645	Arç	His	Ser	Leu	Tyr 10650	Val i	Asn	Gly
Phe	Thr 10655	His	Gln	Ser	Ser	Met 10660	Thr	Thr	Thr	Arg	Thr 10665	Pro A	Asp :	Thr
	100,0					106/5)				Ala 10680			
	10003					10690					Phe 10695			
Phe	Thr 10700	Ile	Thr	Asn	Leu	Arg 10705	Tyr	Glu	Glu	Asn	Met 10710	His H	is F	ro,
Gly	Ser 10715	Arg	Lys	Phe	Asn	Thr 10720	Thr	Glu	Arg	Val :	Leu 10725	Gln G	ly L	eu
Leu i	Arg 10730	Pro	Val	Phe	Lys	Asn 10735	Thr	Ser	Val	Gly i	Pro 10740	Leu T	yr S	er
Gly (Cys 10745	Arg	Leu	Thr	Leu	Leu 10750	Arg	Pro	Lys	Lys A	Asp .0755	Gly A	la A	la
Thr I	Lys 10760	Val	Asp	Ala	Ile (Cys 10765	Thr	Tyr .	Arg	Pro A	sp .0770	Pro Ly	/s Se	er
Pro G	Sly :	Leu .	Asp	Arg	Glu (Gln 10780	Leu	Tyr '	Trp (Glu L 1	eu 5 0785	Ger Gl	n Le	eu
Thr H	lis 9 0790	Ser :	Ile	Thr (Glu I	Leu 10795	Gly	Pro 1	Tyr 1	Thr G 1	ln 7 0800	Asp Ar	g As	sp

Sei	Leu 1080	Туг 5	Asr	n Val	l Gl	y Phe 1081	Th:	r Gli	n Arç	g Sei	Ser 1081		l Pr	o Thr
Thi	Ser 10820	Val	l Pro	Gly	y Thi	r Pro 1082	Thi 5	r Val	l Asp	Leu	ı Gly 10830		r Se	r Gly
Thi	Pro 10835	Val	Ser	Lys	s Pro	O Gly 10840	Pro	Ser			Ser 10845		o Le	u Leu
Val	Leu 10850	Phe	Thr	Leu	ı Asr	n Gly 10855	Thr	: Ile	e Thr	Asn	Leu 10860		g Ty:	r Glu
Glu	Asn 10865	Met	Gln	His	Pro	Gly 10870	Ser	Arç	g Lys	Phe	Asn 10875		r Thi	r Glu
Arg	Val 10880	Leu	Gln	Gly	Leu	Leu 10885	Arg	ßer			Lys 10890		Th:	s Ser
Val	Gly 10895	Pro	Leu	Tyr	Ser	Gly 10900	Cys	Arg	Leu	Thr	Leu 10905		ı Arç	g Pro
Glu	Lys 10910	Asp	Gly	Thr	Ala	Thr 10915	Gly	Val	Asp	Ala	Ile 10920		Thr	His
His	Pro 10925	Asp	Pro	Lys	Ser	Pro 10930	Arg	Leu			Glu 10935		Leu	Tyr
Trp	Glu 10940	Leu	Ser	Gln	Leu	Thr 10945	His	Asn	Ile	Thr	Glu 10950	Leu	Gly	His
Tyr	Ala 10955	Leu	Asp	Asn	Asp	Ser 10960	Leu	Phe	Val	Asn	Gly 10965		Thr	His
Arg	Ser 10970	Ser	Val	Ser	Thr	Thr 10975	Ser	Thr			Thr 10980		Thr	Val
Tyr	Leu 10985	Gly	Ala	Ser	Lys	Thr 10990	Pro	Ala	Ser	Ile	Phe 10995	Gly	Pro	Ser
Ala	Ala 11000	Ser	His	Leu	Leu	Ile 11005	Leu	Phe	Thr	Leu	Asn 11010	Phe	Thr	Ile
Thr	Asn 11015	Leu	Arg	Tyr	Glu	Glu 11020	Asn	Met	Trp	Pro	Gly 11025	Ser	Arg	Lys
Phe	Asn 11030	Thr	Thr	Glu	Arg	Val 11035	Leu	Gln	Gly	Leu	Leu 11040	Arg	Pro	Leu
Phe	Lys 11045	Asn	Thr	Ser	Val	Gly 11050	Pro	Leu	Tyr	Ser	Gly 11055	Ser	Arg	Leu
Thr	Leu 11060	Leu	Arg	Pro	Glu	Lys 11065	Asp	Gly	Glu		Thr 11070	Gly	Val	Asp
Ala	Ile 11075	Cys	Thr	His	Arg	Pro 11080	Asp	Pro	Thr	Gly		Gly	Leu	Asp
Arg	Glu	Gln	Leu	Tyr	Leu	Glu	Leu	Ser	Gln			His	Ser	Ile

	11090)				11095	5				11100)		
Thr	Glu 11105	Leu	Gly	/ Prc	туг	Thr 11110	Leu	ı Asp	Arc	, Asp	Ser 11115		ı Tyr	. Val
Asn	Gly 11120	Phe	Thr	His	Arg	Ser 11125		. Val	. Pro	Thr	Thr 11130		Thr	Gly
Val	Val 11135	Ser	Glu	Glu	Pro	Phe 11140		Leu	ı Asn	Phe	Thr 11145		e Asn	Asn
Leu	Arg 11150	Tyr	Met	Ala	Asp	Met 11155	Gly	Gln			Ser 11160		Lys	Phe
Asn	Ile 11165	Thr	Asp	Asn	Val	Met 11170		His	Leu	Leu	Ser 11175		Leu	Phe
Gln	Arg 11180	Ser	Ser	Leu	Gly	Ala 11185		Tyr	Thr	Gly	Cys 11190		Val	Ile
Ala	Leu 11195	Arg	Ser	Val	Lys	Asn 11200	Gly	Ala		Thr			Asp	Leu
Leu	Cys 11210	Thr	Tyr	Leu	Gln	Pro 11215	Leu	Ser	Gly	Pro	Gly 11220		Pro	Ile
Lys	Gln 11225	Val	Phe	His	Glu	Leu 11230	Ser	Gln	Gln	Thr	His 11235		Ile	Thr
Arg	Leu 11240	Gly	Pro			Leu 11245					Leu 11250		Leu	Asn
Gly	Tyr 11255	Asn	Glu	Pro	Gly	Leu 11260		Glu	Pro	Pro	Thr 11265		Pro	Lys
Pro	Ala 11270	Thr	Thr	Phe	Leu	Pro 11275		Leu	Ser	Glu	Ala 11280		Thr	Ala
Met	Gly 11285	Tyr	His	Leu	Lys	Thr 11290		Thr	Leu	Asn	Phe 11295	Thr	Ile	Ser
Asn	Leu 11300	Gln	Tyr	Ser	Pro	Asp 11305	Met	Gly	Lys	Gly	Ser 11310	Ala	Thr	Phe
Asn	Ser 11315	Thr	Glu	Gly	Val	Leu 11320	Gln	His	Leu	Leu	Arg 11325	Pro	Leu	Phe
Gln	Lys 11330	Ser	Ser	Met	Gly	Pro 11335	Phe	Tyr	Leu	Gly	Cys 11340	Gln	Leu	Ile
Ser	Leu 11345	Arg	Pro	Glu	Lys	Asp 11350	Gly	Ala	Ala	Thr	Gly 11355	Val	Asp	Thr
Thr	Cys 11360	Thr	Tyr	His	Pro	Asp 11365	Pro	Val	Gly	Pro	Gly 11370	Leu	Asp	Ile
Gln	Gln 11375	Leu	Tyr	Trp	Glu	Leu 11380	Ser	Gln	Leu	Thr	His 11385	Gly	Val	Thr

Gln	Leu 11390	Gly	Phe	e Tyr	· Val	Leu 11395	Asp	Arg	g Asp	Ser	Leu 11400		e Ile	e Asn
Gly	Tyr 11405	Ala	Pro			Leu 11410		Ile	e Arg	Gly			Gln	ı Ile
Asn	Phe 11420	His	Ile	· Val	Asn	Trp 11425		Let	ı Ser	Asn	Pro 11430		Pro	Thr
Ser	Ser 11435	Glu	Tyr	Ile	Thr	Leu 11440		Arg	Asp	Ile	Gln 11445		Lys	Val
Thr	Thr 11450	Leu	Tyr	Lys	Gly	Ser 11455	Gln	Leu	His	Asp	Thr 11460		Arg	Phe
Cys	Leu 11465	Val	Thr	Asn	Leu	Thr 11470	Met	Asp	Ser	Val	Leu 11475	Val	Thr	Val
Lys	Ala 11480		Phe	Ser	Ser	Asn 11485	Leu	Asp	Pro	Ser	Leu 11490		Glu	Gln
Val	Phe 11495	Leu	Asp	Lys	Thr	Leu 11500		Ala	Ser	Phe	His 11505		Leu	Gly
Ser	Thr 11510	Tyr	Gln	Leu	Val	Asp 11515	Ile	His	Val	Thr	Glu 11520	Met	Glu	Ser
Ser	Val 11525	Tyr	Gln	Pro	Thr	Ser 11530		Ser	Ser	Thr	Gln 11535		Phe	Tyr
Leu	Asn 11540	Phe	Thr	Ile	Thr	Asn 11545		Pro	Tyr	Ser	Gln 11550	Asp	Lys	Ala
Gln	Pro 11555	Gly	Thr	Thr	Asn	Tyr 11560	Gln	Arg			Arg 11565		Ile	Glu
Asp	Ala 11570	Leu	Asn	Gln	Leu	Phe 11575		Asn		Ser			Ser	Tyr
Phe	Ser 11585	Asp	Cys	Gln	Val	Ser 11590	Thr	Phe	Arg	Ser	Val 11595	Pro	Asn	Arg
His	His 11600	Thr	Gly	Val	Asp	Ser 11605	Leu	Cys	Asn	Phe	Ser 11610	Pro	Leu	Ala
Arg	Arg 11615	Val	Asp	Arg	Val	Ala 11620	Ile	Tyr	Glu	Glu	Phe 11625	Leu	Arg	Met
Thr	Arg 11630	Asn	Gly	Thr	Gln	Leu 11635	Gln	Asn	Phe	Thr	Leu 11640	Asp	Arg	Ser
Ser	Val 11645	Leu	Val	Asp	Gly	Tyr 11650	Ser	Pro	Asn	Arg	Asn 11655	Glu	Pro	Leu
Thr	Gly 11660	Asn	Ser	Asp	Leu	Pro 11665	Phe	Trp	Ala	Val	Ile 11670	Leu	Ile	Gly
Leu	Ala 11675	Gly	Leu	Leu	Gly	Leu 11680	Ile	Thr	Cys	Leu	Ile 11685	Cys	Gly	Val

Leu Val $\,$ Thr Thr Arg Arg $\,$ Arg $\,$ Lys Lys Glu Gly Glu $\,$ Tyr Asn Val $\,$ 11690 $\,$ 11700

Gln Gln Gln Cys Pro Gly Tyr Tyr Gln Ser His Leu Asp Leu Glu 11705 11710 11715

Asp Leu Gln 11720

<210> 163

<211> 156

<212> PRT

<213> Homo sapiens

<400> 163

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Ala Thr Glu Arg Val Leu Gln Gly Leu Leu Ser Pro Ile Phe Lys $35 \hspace{1cm} 40 \hspace{1cm} 45$

Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Ser Leu 50 55 60

Arg Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu 65 70 75 80

Tyr His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr 85 90 95

Trp Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr 100 105 110

Ser Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly Phe Thr His Gln Asn 115 120 125

Ser Val Pro Thr Thr Ser Thr Pro Gly Thr Ser Thr Val Tyr Trp Ala 130 135 140

Thr Thr Gly Thr Pro Ser Ser Phe Pro Gly His Thr 145 150 155

<210> 164

<211> 42

<400> 164

Ala Thr Val Pro Phe Met Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Ala Thr Glu Arg Glu Leu Gln Gly Leu 35 40

<210> 165

<211> 42

<212> PRT

<213> Homo sapiens

<400> 165

Thr Ala Val Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 166

<211> 42

<212> PRT

<213> Homo sapiens

<400> 166

Val Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Ala Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<212> PRT

<213> Homo sapiens

<400> 167

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Ser Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 168

<211> 42

<212> PRT

<213> Homo sapiens

<400> 168

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 169

<211> 42

<212> PRT

<213> Homo sapiens

<400> 169

Ala Pro Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Val Asp Met Arg His Pro Gly Ser Arg Lys Phe

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu

35 40

<210> 170

<211> 42

<212> PRT

<213> Homo sapiens

<400> 170

Asn Leu Gln Tyr Glu Glu Asp Met Arg His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 171

<211> 42

<212> PRT

<213> Homo sapiens

<400> 171

Ala Ala Gly Pro Leu Leu Met Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe 20 25 30

Asn Thr Met Glu Ser Val Leu Gln Gly Leu 35 40

<210> 172

<211> 42

<212> PRT

<213> Homo sapiens

<400> 172

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Cys Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met Arg Arg Thr Gly Ser Arg Lys Phe 20 25 30

Asn Thr Met Glu Ser Val Leu Gln Gly Leu 35 40

<210> 173

<211> 42

<212> PRT

<213> Homo sapiens

<400> 173

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 $$ 5 $$ 10 $$ 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

<210> 174

<211> 42

<212> PRT

<213> Homo sapiens

<400> 174

Thr Ala Gly Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 $$ 5 $$ 10 $$ 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 175

<211> 42

<212> PRT

<213> Homo sapiens

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Gly Glu Asp Met Gly His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 176

<211> 42

<212> PRT

<213> Homo sapiens

<400> 176

Thr Ala Gly Pro Leu Leu Val Leu Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Lys Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Thr Leu 35 40

<210> 177

<211> 42

<212> PRT

<213> Homo sapiens

<400> 177

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Ala Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 178

<211> 42

<400> 178

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Arg Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 179

<211> 42

<212> PRT

<213> Homo sapiens

<400> 179

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

<210> 180

<211> 42

<212> PRT

<213> Homo sapiens

<400> 180

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

<212> PRT

<213> Homo sapiens

<400> 181

Ala Thr Gly Pro Val Leu Leu Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His Arg Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 182

<211> 42

<212> PRT

<213> Homo sapiens

<400> 182

Ala Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

<210> 183

<211> 42

<212> PRT

<213> Homo sapiens

<400> 183

Ser Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Gln Tyr Glu Glu Asp Met His His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu

35 40

<210> 184

<211> 42

<212> PRT

<213> Homo sapiens

<400> 184

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr 1 5 10 15

Asn Gln Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 185

<211> 42

<212> PRT

<213> Homo sapiens

<400> 185

Thr Ala Ser Pro Leu Leu Val Leu Phe Thr Ile Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Arg Tyr Glu Glu Asn Met His His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 186

<211> 42

<212> PRT

<213> Homo sapiens

<400> 186

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 187

<211> 42

<212> PRT

<213> Homo sapiens

<400> 187

Glu Pro Gly Pro Leu Leu Ile Pro Phe Thr Phe Asn Phe Thr Ile Thr 1 $$ 5 $$ 10 $$ 15

Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35

<210> 188

<211> 42

<212> PRT

<213> Homo sapiens

<400> 188

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 189

<211> 42

<212> PRT

<213> Homo sapiens

Ala Pro Val Pro Leu Leu Ile Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asp Leu His Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 190

<211> 42

<212> PRT

<213> Homo sapiens

<400> 190

Ala Ala Ser Pro Leu Leu Val Leu Phe Thr Leu Asn Gly Thr Ile Thr 1 5 10 15

Asn Leu Arg Tyr Glu Glu Asn Met Gln His Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 191

<211> 42

<212> PRT

<213> Homo sapiens

<400> 191

Thr Ala Gly Pro Leu Leu Val Pro Phe Thr Leu Asn Phe Thr Ile Thr 1 5 10 15

Asn Leu Lys Tyr Glu Glu Asp Met His Cys Pro Gly Ser Arg Lys Phe 20 25 30

Asn Thr Thr Glu Arg Val Leu Gln Ser Leu 35 40

<210> 192

<211> 41

<400> 192

Ala Ala Ser His Leu Leu Ile Leu Phe Thr Leu Asn Phe Thr Ile Thr 1 $$ $$ $$ 15

Asn Leu Arg Tyr Glu Glu Asn Met Trp Pro Gly Ser Arg Lys Phe Asn 20 25 30

Thr Thr Glu Arg Val Leu Gln Gly Leu 35 40

<210> 193

<211> 42

<212> PRT

<213> Homo sapiens

<400> 193

Thr Gly Val Val Ser Glu Glu Pro Phe Thr Leu Asn Phe Thr Ile Asn 1 5 10 15

Asn Leu Arg Tyr Met Ala Asp Met Gly Gln Pro Gly Ser Leu Lys Phe 20 25 30

Asn Ile Thr Asp Asn Val Met Lys His Leu 35 40

<210> 194

<211> 42

<212> PRT

<213> Homo sapiens

<400> 194

Ala Met Gly Tyr His Leu Lys Thr Leu Thr Leu Asn Phe Thr Ile Ser 1 5 10 15

Asn Leu Gln Tyr Ser Pro Asp Met Gly Lys Gly Ser Ala Thr Phe Asn 20 25 30

Ser Thr Glu Gly Val Leu Gln His Leu Leu 35 40

<212> PRT

<213> Homo sapiens

<400> 195

Leu Lys Pro Leu Phe Arg Asn Ser Ser Leu Glu Tyr Leu Tyr Ser Gly 1 5 10 15

Cys Arg Leu Ala Ser Leu Arg 20

<210> 196

<211> 23

<212> PRT

<213> Homo sapiens

<400> 196

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg 20

<210> 197

<211> 23

<212> PRT

<213> Homo sapiens

<400> 197

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg 20

<210> 198

<211> 23

<400> 198

Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg 20

<210> 199

<211> 23

<212> PRT

<213> Homo sapiens

<400> 199

Leu Lys Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Ser 1 10 15

Cys Arg Leu Thr Leu Leu Arg 20

<210> 200

<211> 23

<212> PRT

<213> Homo sapiens

<400> 200

Leu Lys Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Cys Arg Leu Thr Ser Leu Arg

<210> 201

<211> 23

<212> PRT

<213> Homo sapiens

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Leu Gly Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly 10 Cys Arg Leu Thr Ser Leu Arg 20 <210> 202 <211> 23
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<212> PRT

<213> Homo sapiens

<400> 202

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly 1 5 10 15

Cys Arg Leu Thr Leu Leu Arg 20

<210> 203

<211> 23

<212> PRT

<213> Homo sapiens

<400> 203

Cys Arg Leu Thr Leu Leu Arg

<210> 204

<211> 23

<212> PRT

<213> Homo sapiens

<400> 204

Leu Gly Pro Met Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly 1 5 10

Cys Arg Leu Thr Ser Leu Arg

<212> PRT

<213> Homo sapiens

20

<400> 205

Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly

Cys Arg Leu Ile Ser Leu Arg

<210> 206

<211> 23

<212> PRT

<213> Homo sapiens

<400> 206

Leu Gly Pro Leu Phe Lys Asn Ser Ser Val Asp Pro Leu Tyr Ser Gly

Cys Arg Leu Thr Ser Leu Arg 20

<210> 207

<211> 23

<212> PRT

<213> Homo sapiens

<400> 207

Leu Ser Pro Ile Phe Lys Asn Ser Ser Val Gly Pro Leu Tyr Ser Gly 5

Cys Arg Leu Thr Ser Leu Arg

<210> 208

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<211> 23
<212> PRT
<213> Homo sapiens
<400> 208
Leu Ser Pro Ile Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly
Cys Arg Leu Thr Leu Leu Arg
<210> 209
<211> 23
<212> PRT
<213> Homo sapiens
<400> 209
Leu Ser Pro Leu Phe Gln Arg Ser Ser Leu Gly Ala Arg Tyr Thr Gly
Cys Arg Val Ile Ala Leu Arg
            20
<210> 210
<211> 23
<212> PRT
<213> Homo sapiens
<400> 210
Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
               5
Cys Arg Leu Thr Leu Leu Arg
            20
<210> 211
<211> 23
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<400> 211

Leu Arg Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly 10 15

Ser Arg Leu Thr Leu Leu Arg 20

<210> 212

<211> 23

<212> PRT

<213> Homo sapiens

<400> 212

Leu Arg Pro Leu Phe Lys Asn Thr Ser Ile Gly Pro Leu Tyr Ser Ser 1 10 15

Cys Arg Leu Thr Leu Leu Arg

<210> 213

<211> 23

<212> PRT

<213> Homo sapiens

<400> 213

Leu Arg Pro Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Cys Arg Leu Thr Leu Leu Arg 20

<210> 214

<211> 23

<212> PRT

<213> Homo sapiens

Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Leu Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg <210> 215 <211> 23 <212> PRT <213> Homo sapiens <400> 215 Leu Arg Pro Val Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg <210> 216 <211> 23 <212> PRT <213> Homo sapiens <400> 216 Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly Cys Arg Leu Thr Leu Leu Arg 20 <210> 217 <211> 23 <212> PRT <213> Homo sapiens <400> 217 Leu Arg Ser Leu Phe Lys Ser Thr Ser Val Gly Pro Leu Tyr Ser Gly 10

Cys Arg Leu Thr Ser Leu Arg

<210> 218 <211> 23

<212> PRT

<213> Homo sapiens

<400> 218

Leu Thr Pro Leu Phe Lys Asn Thr Ser Val Gly Pro Leu Tyr Ser Gly $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Cys Arg Leu Thr Leu Leu Arg 20

<210> 219

<211> 23

<212> PRT

<213> Homo sapiens

<400> 219

Leu Thr Pro Leu Phe Arg Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Cys Arg Leu Thr Leu Leu Arg 20

<210> 220

<211> 23

<212> PRT

<213> Homo sapiens

<400> 220

Leu Met Pro Leu Phe Lys Asn Thr Ser Val Ser Ser Leu Tyr Ser Gly
1 5 10 15

Cys Arg Leu Thr Leu Leu Arg 20

<211> 22

<212> PRT

<213> Homo sapiens

<400> 221

Arg Pro Leu Phe Gln Lys Ser Ser Met Gly Pro Phe Tyr Leu Gly Cys 1 5 10 15

Gln Leu Ile Ser Leu Arg

<210> 222

<211> 58

<212> PRT

<213> Homo sapiens

<400> 222

Pro Glu Lys Asp Ser Ser Ala Met Ala Val Asp Ala Ile Cys Thr His 1 5 10 15

Arg Pro Asp Pro Glu Asp Leu Gly Leu Asp Arg Glu Arg Leu Tyr Trp
20 25 30

Glu Leu Ser Asn Leu Thr Asn Gly Ile Gln Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50 55

<210> 223

<211> 58

<212> PRT

<213> Homo sapiens

<400> 223

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His 1 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 224

<211> 58

<212> PRT

<213> Homo sapiens

<400> 224

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Pro Lys Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His 1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Lys Leu Thr Asn Asp Ile Glu Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 225

<211> 58

<212> PRT

<213> Homo sapiens

<400> 225

Pro Glu Lys Asp Gly Thr Ala Thr Gly Val Asp Ala Ile Cys Thr His 1 5 10 15

His Pro Asp Pro Lys Ser Pro Arg Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly His Tyr Ala 35 40 45

Leu Asp Asn Asp Ser Leu Phe Val Asn Gly 50

<210> 226

<211> 58

<212> PRT

<213> Homo sapiens

<400> 226

Pro Glu Lys Asp Gly Glu Ala Thr Gly Val Asp Ala Ile Cys Thr His 1 10 15

Arg Pro Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Gln Leu Tyr Leu 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 227

<211> 58

<212> PRT

<213> Homo sapiens

<400> 227

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr 1 10 15

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50 55

<210> 228

<211> 58

<212> PRT

<213> Homo sapiens

<400> 228

Pro Glu Lys Asp Gly Ala Ala Thr Gly Met Asp Ala Val Cys Leu Tyr 1 5 10 15

His Pro Asn Pro Lys Arg Pro Gly Leu Asp Arg Glu Gln Leu Tyr Cys 20 25 30

Glu Leu Ser Gln Leu Thr His Asn Ile Thr Glu Leu Gly Pro Tyr Ser 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 229

<211> 58

<212> PRT

<213> Homo sapiens

<400> 229

Pro Glu Lys Asp Gly Ala Ala Thr Arg Val Asp Ala Ala Cys Thr Tyr 1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Val Ser Leu Tyr Val Asn Gly 50 55

<210> 230

<211> 58

<212> PRT

<213> Homo sapiens

<400> 230

Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr 1 5 10 15

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Gln Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 231

<211> 58

<212> PRT

<213> Homo sapiens

<400> 231

Pro Lys Lys Asp Gly Ala Ala Thr Lys Val Asp Ala Ile Cys Thr Tyr $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Gln Asp Arg Asp Ser Leu Tyr Asn Val Gly 50

<210> 232

<211> 58

<212> PRT

<213> Homo sapiens

<400> 232

Arg Pro Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30

Lys Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg His Ser Leu Tyr Val Asn Gly 50 55

<210> 233

<211> 58

<212> PRT

<213> Homo sapiens

<400> 233

Pro Glu Lys Asp Gly Val Ala Thr Arg Val Asp Ala Ile Cys Thr His 1 10 15

Arg Pro Asp Pro Lys Ile Pro Gly Leu Asp Arg Gln Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50 55

<210> 234

<211> 58

<212> PRT

<213> Homo sapiens

<400> 234

His Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Arg Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 235

<211> 58

<212> PRT

<213> Homo sapiens

<400> 235

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His 1 5 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 236

<211> 58

<212> PRT

<213> Homo sapiens

<400> 236

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His 1 10 15

Arg Leu Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50

<210> 237

<211> 58

<212> PRT

<213> Homo sapiens

<400> 237

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His 1 $$ 5 $$ 10 $$ 15

Arg Val Asp Pro Lys Ser Pro Gly Val Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50 55

<210> 238

<211> 58

<212> PRT

<213> Homo sapiens

<400> 238

Ser Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr His

1 5 10 15 His Leu Asn Pro Gln Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp Gln Leu Ser Gln Met Thr Asn Gly Ile Lys Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly <210> 239 <211> 58 <212> PRT <213> Homo sapiens <400> 239 Pro Glu Lys Arg Gly Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His Arg Leu Asp Pro Leu Asn Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 Glu Leu Ser Lys Leu Thr Arg Gly Ile Ile Glu Leu Gly Pro Tyr Leu 4 O Leu Asp Arg Gly Ser Leu Tyr Val Asn Gly 50 55 <210> 240 <211> 58 <212> PRT <213> Homo sapiens <400> 240 Pro Glu Lys Asn Gly Ala Ala Thr Gly Met Asp Ala Ile Cys Ser His Arg Leu Asp Pro Lys Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp

Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly

<210> 241

<211> 58

<212> PRT

<213> Homo sapiens

<400> 241

Arg Leu Asp Pro Lys Ser Pro Gly Leu Asp Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Gly Ile Lys Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asn Ser Leu Tyr Val Asn Gly 50 55

<210> 242

<211> 58

<212> PRT

<213> Homo sapiens

<400> 242

Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu 5 10 15

Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Val Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50 55

<210> 243

<211> 58

<212> PRT

<213> Homo sapiens

<400> 243

Pro Glu Lys His Gly Ala Ala Thr Gly Val Asp Ala Ile Cys Thr Leu 1 $$ 5 $$ 10 $$ 15

Arg Leu Asp Pro Thr Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 244

<211> 58

<212> PRT

<213> Homo sapiens

<400> 244

Pro Glu Lys His Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His 1 5101515

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp
20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly 50

<210> 245

<211> 58

<212> PRT

<213> Homo sapiens

<400> 245

Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asn Gly

50 55

<210> 246

<211> 58

<212> PRT

<213> Homo sapiens

<400> 246

Pro Glu Lys Gln Glu Ala Ala Thr Gly Val Asp Thr Ile Cys Thr His 1 5 10 15

Arg Val Asp Pro Ile Gly Pro Gly Leu Asp Arg Glu Arg Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr Asn Ser Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly 50

<210> 247

<211> 58

<212> PRT

<213> Homo sapiens

<400> 247

Pro Glu Lys Asp Lys Ala Ala Thr Arg Val Asp Ala Ile Cys Thr His $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

His Pro Asp Pro Gln Ser Pro Gly Leu Asn Arg Glu Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Gly Ile Thr Glu Leu Gly Pro Tyr Thr 35 40 45

Leu Asp Arg Asp Ser Leu Tyr Val Asp Gly 50

<210> 248

<211> 58

<212> PRT

<213> Homo sapiens

<400> 248

Ser Val Lys Asn Gly Ala Glu Thr Arg Val Asp Leu Leu Cys Thr Tyr $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Leu Gln Pro Leu Ser Gly Pro Gly Leu Pro Ile Lys Gln Val Phe His 20 25 30

Glu Leu Ser Gln Gln Thr His Gly Ile Thr Arg Leu Gly Pro Tyr Ser 35 40 45

Leu Asp Lys Asp Ser Leu Tyr Leu Asn Gly 50

<210> 249

<211> 58

<212> PRT

<213> Homo sapiens

<400> 249

Pro Glu Lys Asp Gly Ala Ala Thr Gly Val Asp Thr Thr Cys Thr Tyr 1 5 10 15

His Pro Asp Pro Val Gly Pro Gly Leu Asp Ile Gln Gln Leu Tyr Trp 20 25 30

Glu Leu Ser Gln Leu Thr His Gly Val Thr Gln Leu Gly Phe Tyr Val 35 40 45

Leu Asp Arg Asp Ser Leu Phe Ile Asn Gly 50 55

<210> 250

<211> 12

<212> PRT

<213> Homo sapiens

<400> 250

Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr 1 5 10

<210> 251

<211> 12

<212> PRT

<213> Homo sapiens

<400> 251

Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Ile 1 5 10

<210> 252

<211> 12

<212> PRT

<213> Homo sapiens

<400> 252

<210> 253

<211> 12

<212> PRT

<213> Homo sapiens

<400> 253

Phe Thr His Arg Thr Ser Val Pro Thr Thr Ser Thr 1 $$ 5 $$ 10

<210> 254

<211> 12

<212> PRT

<213> Homo sapiens

<400> 254

Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ser $1 \hspace{1cm} 5 \hspace{1cm} 10$

<210> 255

<211> 12

<212> PRT

<213> Homo sapiens

<400> 255

Phe Thr His Arg Ser Ser Val Ser Thr Thr Ser Thr 1 5 10

<210> 256

<211> 12

<212> PRT

<213> Homo sapiens

<400> 256

Phe Thr His Arg Ser Ser Val Ala Pro Thr Ser Thr 1 $$ 5 $$ 10

<210> 257

<211> 12

<212> PRT

<213> Homo sapiens

<400> 257

Phe Thr His Arg Ser Ser Gly Leu Thr Thr Ser Thr $1 \hspace{1cm} 5 \hspace{1cm} 10$

<210> 258

<211> 12

<212> PRT

<213> Homo sapiens

<400> 258

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<210> 259
<211> 12
<212> PRT
<213> Homo sapiens
<400> 259
Phe Thr His Arg Ser Ser Phe Leu Thr Thr Ser Thr
<210> 260
<211> 12
<212> PRT
<213> Homo sapiens
<400> 260
Phe Thr His Arg Asn Phe Val Pro Ile Thr Ser Thr
                                   10
<210> 261
<211> 12
<212> PRT
<213> Homo sapiens
<400> 261
Phe Thr His Arg Ser Ser Val Pro Thr Thr Ser Ile
               5
<210> 262
<211> 12
<212> PRT
<213> Homo sapiens
<400> 262
Phe Thr His Gln Ser Ser Val Ser Thr Thr Ser Thr
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<210> 263
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<211> 12

<212> PRT

<213> Homo sapiens

<400> 263

<210> 264

<211> 12

<212> PRT

<213> Homo sapiens

<400> 264

Phe Thr His Gln Thr Phe Ala Pro Asn Thr Ser Thr $1 \hspace{1cm} 5 \hspace{1cm} 10$

<210> 265

<211> 12

<212> PRT

<213> Homo sapiens

<400> 265

Phe Thr His Gln Asn Ser Val Pro Thr Thr Ser Thr $1 \hspace{1cm} 5 \hspace{1cm} 10$

<210> 266

<211> 12

<212> PRT

<213> Homo sapiens

<400> 266

Phe Thr His Gln Ser Ser Met Thr Thr Arg Thr

<400> 270

1 5 10 <210> 267 <211> 12 <212> PRT <213> Homo sapiens <400> 267 Phe Thr His Trp Ile Pro Val Pro Thr Ser Ser Thr 5 <210> 268 <211> 12 <212> PRT <213> Homo sapiens <400> 268 Phe Thr His Trp Ser Pro Ile Pro Thr Thr Ser Thr <210> 269 <211> 12 <212> PRT <213> Homo sapiens <400> 269 Phe Thr His Trp Ser Ser Gly Leu Thr Thr Ser Thr <210> 270 <211> 12 <212> PRT <213> Homo sapiens

<210> 271

<211> 12

<212> PRT

<213> Homo sapiens

<400> 271

Phe Asn Pro Arg Ser Ser Val Pro Thr Thr Ser Thr $1 \hspace{1cm} 5 \hspace{1cm} 10$

<210> 272

<211> 12

<212> PRT

<213> Homo sapiens

<400> 272

Phe Asn Pro Trp Ser Ser Val Pro Thr Thr Ser Thr $1 \hspace{1cm} 5 \hspace{1cm} 10$

<210> 273

<211> 12

<212> PRT

<213> Homo sapiens

<400> 273

<210> 274

<211> 12

<212> PRT

<213> Homo sapiens

<400> 274

Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Thr <210> 275 <211> 12 <212> PRT <213> Homo sapiens <400> 275 Phe Thr Gln Arg Ser Ser Val Pro Thr Thr Ser Val <210> 276 <211> 12 <212> PRT <213> Homo sapiens <400> 276 Tyr Asn Glu Pro Gly Leu Asp Glu Pro Pro Thr Thr <210> 277 <211> 12 <212> PRT <213> Homo sapiens <400> 277 Tyr Ala Pro Gln Asn Leu Ser Ile Arg Gly Glu Tyr <210> 278 <211> 21 <212> PRT

<213> Homo sapiens

<400> 278

Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser Ser 10 15

Ser Pro Ser Pro Thr 20

<210> 279

<211> 23

<212> PRT

<213> Homo sapiens

<400> 279

Pro Gly Thr Ser Thr Val Asp Leu Arg Thr Ser Gly Thr Pro Ser Ser 1 5 10 15

Leu Ser Ser Pro Thr Ile Met 20

<210> 280

<211> 21

<212> PRT

<213> Homo sapiens

<400> 280

Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Phe Ser 1 $$ 5 $$ 10 $$ 15

Leu Pro Ser Pro Ala 20

<210> 281

<211> 20

<212> PRT

<213> Homo sapiens

<400> 281

Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Ser Leu $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

<210> 285

Pro Ser Pro Thr 20 <210> 282 <211> 20 <212> PRT <213> Homo sapiens <400> 282 Pro Gly Thr Ser Thr Val Asp Leu Gly Ser Gly Thr Pro Ser Leu Pro Ser Ser Pro Thr 20 <210> 283 <211> 21 <212> PRT <213> Homo sapiens <400> 283 Pro Gly Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Ser Leu Pro Ser Pro Thr 20 <210> 284 <211> 21 <212> PRT <213> Homo sapiens <400> 284 Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser 10 Lys Pro Gly Pro Ser

<211> 21 <212> PRT

<213> Homo sapiens

<400> 285

Pro Trp Thr Ser Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Ser Pro $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Val Pro Ser Pro Thr 20

<210> 286

<211> 21

<212> PRT

<213> Homo sapiens

<400> 286

Pro Gly Thr Ser Thr Val Tyr Trp Ala Thr Thr Gly Thr Pro Ser Ser 1 10 15

Phe Pro Gly His Thr 20

<210> 287

<211> 21

<212> PRT

<213> Homo sapiens

<400> 287

Pro Gly Thr Ser Thr Val His Leu Ala Thr Ser Gly Thr Pro Ser Ser 1 10 15

Leu Pro Gly His Thr 20

<210> 288

<211> 21

<212> PRT

<213> Homo sapiens

<400> 288

Leu Pro Gly His Thr 20

<210> 289

<211> 21

<212> PRT

<213> Homo sapiens

<400> 289

Pro Asp Thr Ser Thr Met His Leu Ala Thr Ser Arg Thr Pro Ala Ser 1 5 10 15

Leu Ser Gly Pro Thr 20

<210> 290

<211> 21

<212> PRT

<213> Homo sapiens

<400> 290

Pro Gly Thr Ser Ala Val His Leu Glu Thr Ser Gly Thr Pro Ala Ser $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Leu Pro Gly His Thr 20

<210> 291

<211> 21

<212> PRT

<213> Homo sapiens

<400> 291

Pro Gly Thr Ser Ala Val His Leu Glu Thr Thr Gly Thr Pro Ser Ser 1 5 10 15

Phe Pro Gly His Thr 20

<210> 292

<211> 21

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<213> Homo sapiens

<400> 292

Leu Pro Arg Pro Ile 20

<210> 293

<211> 21

<212> PRT

<213> Homo sapiens

<400> 293

Pro Gly Thr Ser Ile Val Asn Leu Gly Thr Ser Gly Ile Pro Pro Ser $1 \hspace{1.5cm} 5 \hspace{1.5cm} 10 \hspace{1.5cm} 15$

Leu Pro Glu Thr Thr 20

<210> 294

<211> 21

<212> PRT

<213> Homo sapiens

<400> 294

Pro Gly Thr Phe Thr Val Gln Pro Glu Thr Ser Glu Thr Pro Ser Ser 1 5 10 15

Leu Pro Gly Pro Thr

20

<211> 21 <212> PRT

<213> Homo sapiens

<400> 295

Pro Gly Thr Pro Thr Val Asp Leu Gly Thr Ser Gly Thr Pro Val Ser 1 10 15

Lys Pro Gly Pro Ser 20

<210> 296

<211> 21

<212> PRT

<213> Homo sapiens

<400> 296

Pro Gly Thr Pro Thr Val Tyr Leu Gly Ala Ser Lys Thr Pro Ala Ser 1 5 10 15

Ile Phe Gly Pro Ser

<210> 297

<211> 16

<212> PRT

<213> Homo sapiens

<400> 297

Pro Lys Pro Ala Thr Thr Phe Leu Pro Pro Leu Ser Glu Ala Thr Thr 1 $$ 5 $$ 10 $$ 15

<210> 298

<211> 21

<212> PRT

<213> Homo sapiens

<400> 298

Gln Ile Asn Phe His Ile Val Asn Trp Asn Leu Ser Asn Pro Asp Pro 1 5 10 15

Thr Ser Ser Glu Tyr 20

<210> 299

<211> 1794

<212> PRT

<213> Homo sapiens

<400> 299

Met Glu His Ile Thr Lys Ile Pro Asn Glu Ala Ala His Arg Gly Thr $1 \hspace{1cm} 5 \hspace{1cm} 10 \hspace{1cm} 15$

Ile Arg Pro Val Lys Gly Pro Gln Thr Ser Thr Ser Pro Ala Ser Pro 20 25 30

Lys Gly Leu His Thr Gly Gly Thr Lys Arg Met Glu Thr Thr Thr Thr 35 40 45

Ala Leu Lys Thr Thr Thr Thr Ala Leu Lys Thr Thr Ser Arg Ala Thr 50 60

Leu Thr Thr Ser Val Tyr Thr Pro Thr Leu Gly Thr Leu Thr Pro Leu 65 70 75 80

Asn Ala Ser Arg Gln Met Ala Ser Thr Ile Leu Thr Glu Met Met Ile $85 \hspace{1cm} 90 \hspace{1cm} 95$

Thr Thr Pro Tyr Val Phe Pro Asp Val Pro Glu Thr Thr Ser Ser Leu 100 105 110

Ala Thr Ser Leu Gly Ala Glu Thr Ser Thr Ala Leu Pro Arg Thr Thr 115 120 125

Pro Ser Val Leu Asn Arg Glu Ser Glu Thr Thr Ala Ser Leu Val Ser 130 135 140

Arg Ser Gly Ala Glu Arg Ser Pro Val Ile Gln Thr Leu Asp Val Ser 145 150 155 160

Ser Ser Glu Pro Asp Thr Thr Ala Ser Trp Val Ile His Pro Ala Glu 165 170 175

Thr Ile Pro Thr Val Ser Lys Thr Thr Pro Asn Phe Phe His Ser Glu 180 185 190

Leu	Asp	Thr 195	Val	Ser	Ser	Thr	Ala 200	Thr	Ser	His	Gly	Ala 205	Asp	Val	Ser
Ser	Ala 210	Ile	Pro	Thr	Asn	Ile 215	Ser	Pro	Ser	Glu	Leu 220	Asp	Ala	Leu	Thr
Pro 225	Leu	Val	Thr	Ile	Ser 230	Gly	Thr	Asp	Thr	Ser 235	Thr	Thr	Phe	Pro	Thr 240
Leu	Thr	Lys	Ser	Pro 245	His	Glu	Thr	Glu	Thr 250	Arg	Thr	Thr	Trp	Leu 255	Thr
His	Pro	Ala	Glu 260	Thr	Ser	Ser	Thr	Ile 265	Pro	Arg	Thr	Ile	Pro 270	Asn	Phe
Ser	His	His 275	Glu	Ser	Asp	Ala	Thr 280	Pro	Ser	Ile	Ala	Thr 285	Ser	Pro	Gly
Ala	Glu 290	Thr	Ser	Ser	Ala	Ile 295	Pro	Ile	Met	Thr	Val 300	Ser	Pro	Gly	Ala
Glu 305	Asp	Leu	Val	Thr	Ser 310	Gln	Val	Thr	Ser	Ser 315	Gly	Thr	Asp	Arg	Asn 320
Met	Thr	Ile	Pro	Thr 325	Leu	Thr	Leu	Ser	Pro 330	Gly	Glu	Pro	Lys	Thr 335	Ile
Ala	Ser	Leu	Val 340	Thr	His	Pro	Glu	Ala 345	Gln	Thr	Ser	Ser	Ala 350	Ile	Pro
Thr	Ser	Thr 355	Ile	Ser	Pro	Ala	Val 360	Ser	Arg	Leu	Val	Thr 365	Ser	Met	Val
Thr	Ser 370	Leu	Ala	Ala	Lys	Thr 375	Ser	Thr	Thr	Asn	Arg 380	Ala	Leu	Thr	Asn
Ser 385	Pro	Gly	Glu	Pro	Ala 390	Thr	Thr	Val	Ser	Leu 395	Val	Thr	His	Pro	Ala 400
Gln	Thr	Ser	Pro	Thr 405	Val	Pro	Trp	Thr	Thr 410	Ser	Ile	Phe	Phe	His 415	Ser
Lys	Ser	Asp	Thr 420	Thr	Pro	Ser	Met	Thr 425	Thr	Ser	His	Gly	Ala 430	Glu	Ser
Ser	Ser	Ala 435	Val	Pro	Thr	Pro	Thr 440	Val	Ser	Thr	Glu	Val 445	Pro	Gly	Val
Val	Thr 450	Pro	Leu	Val	Thr	Ser 455	Ser	Arg	Ala	Val	Ile 460	Ser	Thr	Thr	Ile
Pro 465	Ile	Leu	Thr	Leu	Ser 470	Pro	Gly	Glu	Pro	Glu 475	Thr	Thr	Pro	Ser	Met 480
Ala	Thr	Ser	His	Gly 485	Glu	Glu	Ala	Ser	Ser 490	Ala	Ile	Pro	Thr	Pro 495	Thr
Val	Ser	Pro	Gly	Val	Pro	Gly	Val	Val	Thr	Ser	Leu	Val	Thr	Ser	Ser

500 505 510 Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr Phe Ser Leu Gly 520 Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His Gly Thr Glu Ala 535 Gly Ser Ala Val Pro Thr Val Leu Pro Glu Val Pro Gly Met Val Thr 550 555 Ser Leu Val Ala Ser Ser Arg Ala Val Thr Ser Thr Thr Leu Pro Thr 565 570 Leu Thr Leu Ser Pro Gly Glu Pro Glu Thr Thr Pro Ser Met Ala Thr 585 Ser His Gly Ala Glu Ala Ser Ser Thr Val Pro Thr Val Ser Pro Glu 600 Val Pro Gly Val Val Thr Ser Leu Val Thr Ser Ser Gly Val Asn 615 Ser Thr Ser Ile Pro Thr Leu Ile Leu Ser Pro Gly Glu Leu Glu Thr 630 Thr Pro Ser Met Ala Thr Ser His Gly Ala Glu Ala Ser Ser Ala Val 645 Pro Thr Pro Thr Val Ser Pro Gly Val Ser Gly Val Val Thr Pro Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr Thr Ile Pro Ile Leu Thr 675 685 Leu Ser Ser Ser Glu Pro Glu Thr Thr Pro Ser Met Ala Thr Ser His 695 Gly Val Glu Ala Ser Ser Ala Val Leu Thr Val Ser Pro Glu Val Pro 705 710 715 Gly Met Val Thr Ser Leu Val Thr Ser Ser Arg Ala Val Thr Ser Thr 730 Thr Ile Pro Thr Leu Thr Ile Ser Ser Asp Glu Pro Glu Thr Thr 740 745 Ser Leu Val Thr His Ser Glu Ala Lys Met Ile Ser Ala Ile Pro Thr Leu Ala Val Ser Pro Thr Val Gln Gly Leu Val Thr Ser Leu Val Thr 770 Ser Ser Gly Ser Glu Thr Ser Ala Phe Ser Asn Leu Thr Val Ala Ser Ser Gln Pro Glu Thr Ile Asp Ser Trp Val Ala His Pro Gly Thr Glu 810

Ala Ser Ser Val Val Pro Thr Leu Thr Val Ser Thr Gly Glu Pro Phe 820 825 Thr Asn Ile Ser Leu Val Thr His Pro Ala Glu Ser Ser Ser Thr Leu 840 Pro Arg Thr Thr Ser Arg Phe Ser His Ser Glu Leu Asp Thr Met Pro 855 Ser Thr Val Thr Ser Pro Glu Ala Glu Ser Ser Ser Ala Ile Ser Thr 870 875 Thr Ile Ser Pro Gly Ile Pro Gly Val Leu Thr Ser Leu Val Thr Ser 885 Ser Gly Arg Asp Ile Ser Ala Thr Phe Pro Thr Val Pro Glu Ser Pro 905 His Glu Ser Glu Ala Thr Ala Ser Trp Val Thr His Pro Ala Val Thr 920 925 Ser Thr Thr Val Pro Arg Thr Thr Pro Asn Tyr Ser His Ser Glu Pro 935 Asp Thr Thr Pro Ser Ile Ala Thr Ser Pro Gly Ala Glu Ala Thr Ser 945 950 955 Asp Phe Pro Thr Ile Thr Val Ser Pro Asp Val Pro Asp Met Val Thr 965 970 Ser Gln Val Thr Ser Ser Gly Thr Asp Thr Ser Ile Thr Ile Pro Thr 980 985 Leu Thr Leu Ser Ser Gly Glu Pro Glu Thr Thr Thr Ser Phe Ile Thr 995 1000 Tyr Ser Glu Thr His Thr Ser Ser Ala Ile Pro Thr Leu Pro Val 1010 1015 1020 Ser Pro Gly Ala Ser Lys Met Leu Thr Ser Leu Val Ile Ser Ser 1025 1030 1035 Gly Thr Asp Ser Thr Thr Thr Phe Pro Thr Leu Thr Glu Thr Pro 1045 1050 Tyr Glu Pro Glu Thr Thr Ala Ile Gln Leu Ile His Pro Ala Glu 1055 1060 Thr Asn Thr Met Val Pro Arg Thr Thr Pro Lys Phe Ser His Ser 1070 1075 1080 Lys Ser Asp Thr Thr Leu Pro Val Ala Ile Thr Ser Pro Gly Pro 1085 1090 1095 Glu Ala Ser Ser Ala Val Ser Thr Thr Thr Ile Ser Pro Asp Met 1105 1110 Ser Asp Leu Val Thr Ser Leu Val Pro Ser Ser Gly Thr Asp Thr 1115 1120 1125

Ser	Thr 1130		Phe	Pro	Thr	Leu 1135		Glu	Thr	Pro	Tyr 1140		Pro	Glu
Thr	Thr 1145		Thr	Trp	Leu	Thr 1150		Pro	Ala	Glu	Thr 1155		Thr	Thr
Val	Ser 1160		Thr	Ile	Pro	Asn 1165		Ser	His	Arg	Gly 1170		Asp	Thr
Ala	Pro 1175		Met	Val	Thr	Ser 1180		Gly	Val	Asp	Thr 1185		Ser	Gly
Val	Pro 1190		Thr	Thr	Ile	Pro 1195		Ser	Ile	Pro	Gly 1200		Val	Thr
Ser	Gln 1205		Thr	Ser	Ser	Ala 1210		Asp	Thr	Ser	Thr 1215		Ile	Pro
Thr	Leu 1220		Pro	Ser	Pro	Gly 1225		Pro	Glu	Thr	Thr 1230		Ser	Ser
Ala	Thr 1235		Pro	Gly	Thr	Gln 1240		Gly	Phe	Thr	Val 1245		Ile	Arg
Thr	Val 1250	Pro	Ser	Ser	Glu	Pro 1255		Thr	Met	Ala	Ser 1260	Trp	Val	Thr
His	Pro 1265	Pro	Gln	Thr	Ser	Thr 1270		Val	Ser	Arg	Thr 1275	Thr	Ser	Ser
Phe	Ser 1280	His	Ser	Ser	Pro	Asp 1285		Thr	Pro	Val	Met 1290	Ala	Thr	Ser
Pro	Arg 1295	Thr	Glu	Ala	Ser	Ser 1300	Ala	Val	Leu	Thr	Thr 1305	Ile	Ser	Pro
Gly	Ala 1310	Pro	Glu	Met	Val	Thr 1315	Ser	Gln	Ile	Thr	Ser 1320	Ser	Gly	Ala
Ala	Thr 1325	Ser	Thr	Thr		Pro 1330		Leu	Thr	His	Ser 1335	Pro	Gly	Met
Pro	Glu 1340	Thr	Thr	Ala	Leu	Leu 1345	Ser	Thr	His	Pro	Arg 1350	Thr	Glu	Thr
Ser	Lys 1355	Thr	Phe	Pro	Ala	Ser 1360	Thr	Val	Phe	Pro	Gln 1365	Val	Ser	Glu
Thr	Thr 1370	Ala	Ser	Leu	Thr	Ile 1375	Arg	Pro	Gly	Ala	Glu 1380	Thr	Ser	Thr
Ala	Leu 1385	Pro	Thr	Gln	Thr	Thr 1390	Ser	Ser	Leu	Phe	Thr 1395	Leu	Leu	Val
Thr	Gly 1400	Thr	Ser	Arg	Val	Asp 1405	Leu	Ser	Pro	Thr	Ala 1410	Ser	Pro	Gly
Val	Ser	Ala	Lys	Thr	Ala	Pro	Leu	Ser	Thr	His	Pro	Gly	Thr	Glu

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Thr	Ser 1430		Met	Ile	Pro	Thr 1435		Thr	Leu	Ser	Leu 1440		Leu	Leu
Glu	Thr 1445	Thr	Gly	Leu	Leu	Ala 1450		Ser	Ser	Ser	Ala 1455		Thr	Ser
Thr	Ser 1460	Thr	Leu	Thr	Leu	Thr 1465		Ser	Pro	Ala	Val 1470		Gly	Leu
Ser	Ser 1475		Ser	Ile	Thr	Thr 1480		Lys	Pro	Gln	Thr 1485		Thr	Ser
Trp	Asn 1490		Glu	Thr	Ser	Pro 1495		Val	Thr	Ser	Val 1500		Pro	Pro
Glu	Phe 1505	Ser	Arg	Thr	Val	Thr 1510	Gly	Thr	Thr	Met	Thr 1515		Ile	Pro
Ser	Glu 1520	Met	Pro	Thr	Pro	Pro 1525		Thr	Ser	His	Gly 1530		Gly	Val
Ser	Pro 1535		Thr	Ile	Leu	Arg 1540		Thr	Met	Val	Glu 1545		Thr	Asn
Leu	Ala 1550	Thr	Thr	Gly	Ser	Ser 1555	Pro	Thr	Val	Ala	Lys 1560		Thr	Thr
Thr	Phe 1565	Asn	Thr	Leu	Ala	Gly 1570	Ser	Leu	Phe	Thr	Pro 1575	Leu	Thr	Thr
Pro	Gly 1580	Met	Ser	Thr	Leu	Ala 1585	Ser	Glu	Ser	Val	Thr 1590	Ser	Arg	Thr
Ser	Tyr 1595	Asn	His	Arg	Ser	Trp 1600	Ile	Ser	Thr	Thr	Ser 1605	Ser	Tyr	Asn
Arg	Arg 1610	Tyr	Trp	Thr	Pro	Ala 1615	Thr	Ser	Thr	Pro	Val 1620	Thr	Ser	Thr
Phe	Ser 1625	Pro	Gly	Ile	Ser	Thr 1630	Ser	Ser	Ile	Pro	Ser 1635	Ser	Thr	Ala
Ala	Thr 1640	Val	Pro	Phe	Met	Val 1645	Pro	Phe	Thr	Leu	Asn 1650	Phe	Thr	Ile
Thr	Asn 1655	Leu	Gln	Tyr	Glu	Glu 1660	Asp	Met	Arg	His	Pro 1665	Gly	Ser	Arg
Lys	Phe 1670	Asn	Ala	Thr	Glu	Arg 1675	Glu	Leu	Gln	Gly	Leu 1680	Leu	Lys	Pro
Leu	Phe 1685	Arg	Asn	Ser	Ser	Leu 1690	Glu	Tyr	Leu	Tyr	Ser 1695	Gly	Cys	Arg
Leu	Ala 1700	Ser	Leu	Arg	Pro	Glu 1705	Lys	Asp	Ser	Ser	Ala 1710	Met	Ala	Val

Asp Ala Ile Cys Thr His Arg Pro Asp Pro Glu Asp Leu Gly Leu 1720 1715 Asp Arg Glu Arg Leu Tyr Trp Glu Leu Ser Asn Leu Thr Asn Gly 1735 1730 Ile Gln Glu Leu Gly Pro Tyr Thr Leu Asp Arg Asn Ser Leu Tyr 1745 1750 Val Asn Gly Phe Thr His Arg Ser Ser Met Pro Thr Thr Ser Thr 1765 1770 Pro Gly Thr Ser Thr Val Asp Val Gly Thr Ser Gly Thr Pro Ser 1780 1785 1775 Ser Ser Pro Ser Pro Thr 1790 <210> 300 <211> 284 <212> PRT <213> Homo sapiens <400> 300 Ile Thr Leu Leu Arg Asp Ile Gln Asp Lys Val Thr Thr Leu Tyr Lys Gly Ser Gln Leu His Asp Thr Phe Arg Phe Cys Leu Val Thr Asn Leu Thr Met Asp Ser Val Leu Val Thr Val Lys Ala Leu Phe Ser Ser Asn 40 Leu Asp Pro Ser Leu Val Glu Gln Val Phe Leu Asp Lys Thr Leu Asn Ala Ser Phe His Trp Leu Gly Ser Thr Tyr Gln Leu Val Asp Ile His 70 Val Thr Glu Met Glu Ser Ser Val Tyr Gln Pro Thr Ser Ser Ser Thr Gln His Phe Tyr Leu Asn Phe Thr Ile Thr Asn Leu Pro Tyr Ser 105 Gln Asp Lys Ala Gln Pro Gly Thr Thr Asn Tyr Gln Arg Asn Lys Arg 120 115 Asn Ile Glu Asp Ala Leu Asn Gln Leu Phe Arg Asn Ser Ser Ile Lys 140 135 Ser Tyr Phe Ser Asp Cys Gln Val Ser Thr Phe Arg Ser Val Pro Asn

155

150

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